

# PURCHASING

THE NATIONAL MAGAZINE FOR PURCHASING AGENTS • SINCE 1915



TWO PARTS

JAMES McPHERSON

SEE PAGE 59

SECTION I

Deputy Director of Purchases, WPB, on Lend-Lease Contracts

CONOVER • MAST PUBLICATION

MARCH, 1942

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*He never stops trying to help you*

**CALL YOUR REPUBLIC DISTRIBUTOR FIRST**

Give him a chance to help you solve your steel supply problems. He's anxious to serve you—and *can, in many ways*. Due to *Production for Victory*, he may not be able to give you *all* the Republic sheets, pipe, bolts and nuts, cold finished bars and shafting, boiler tubes and electrical conduit you need, but *he won't stop trying*.

When you put your problem up to your Republic Distributor, he tackles it as if it were his own. For today, *your* worries are *his* problems and his business depends on his solving them. So, he has simply rolled up his sleeves and buckled down to the job of using all his facilities overtime to give you emergency service *now* when you need it most.

He still may be able to furnish you with small supplies for vital machine and plant maintenance, or enough to keep a war contract moving until your mill order arrives. If he can't, he will go the limit to get them for you. Often he can furnish other sizes or grades that will serve almost as well. He may be able to suggest ways to make your stocks go farther. He just never lets up in his effort to help you.

*He's* the kind of a man you *need* in this emergency, so always call your Republic Distributor *first*. Republic Steel Corporation, Cleveland, Ohio.

Berger Manufacturing Division • Culvert Division  
Niles Steel Products Division • Steel and Tubes Division  
Union Drawn Steel Division • Truscon Steel Company

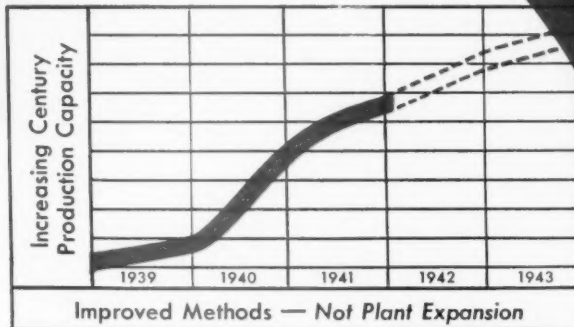
*Republic*

**STEELS AND STEEL PRODUCTS**





War Industries  
*Look to*  
**CENTURY  
MOTORS!**



**Thanks to more than two years of careful planning  
Century is meeting war production demands!**

Since September of '39 Century has been planning its production facilities and methods to keep pace with the ever-increasing demand for the types and horsepower ratings of motors we knew would be needed for defense and war efforts — without plant expansion!

Wherever electric motor power is a factor in operating war machines — or in producing them — you'll find Century able to supply AC or DC Motors and Generators needed for the World War effort.

Call in your nearest Century Motor Specialist — you'll find him experienced and cooperative. He's working for Victory, too.

**CENTURY ELECTRIC COMPANY**

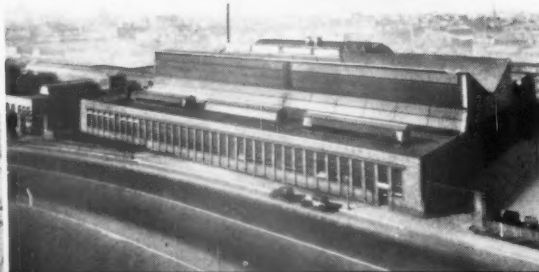
1806 Pine Street St. Louis, Missouri  
Offices and stock points in principal cities

*Century*  
**MOTORS**



*One of the Largest Exclusive  
Motor and Generator Manu-  
facturers in the World.*

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★ ★ ★

**A few of the Century Plants**

★ ★ ★

*When writing Century Electric Company please mention Purchasing*



TS

# What a difference!



The four leaf clover...  
*a symbol of luck left to chance*



The Gaylord seal...  
*a symbol of PLANNED protection!*

- Corrugated and Solid Fibre Shipping Containers
- Folding and Paraffined Cartons
- Kraft Paper Bags and Sacks
- Kraft Wrapping Paper and Specialties

## GAYLORD CONTAINER CORPORATION

General Offices: SAINT LOUIS

New York • Chicago • San Francisco • Atlanta • New Orleans • Jersey City • Seattle • Indianapolis  
Houston • Los Angeles • Oakland • Minneapolis • Dallas • Jacksonville • Columbus • Fort Worth  
Detroit • Tampa • Cincinnati • Des Moines • Oklahoma City • Portland • Greenville • San Antonio  
Memphis • Kansas City • Milwaukee • Bogalusa • Weslaco • Greensboro



WHAT'S A GIRL POWDERING HER NOSE to do with fluorescent lighting? Just this: The powder used in G-E MAZDA "F" (Fluorescent) lamps to transform ultra-violet into invisible light must be ground fine as face powder to make sure you get maximum light for the current you buy. This synthetic powder, or phosphor, is one of many things MAZDA research created in developing this new, efficient source of light.



FOR FLUORESCENT LIGHTING TO SPEED VICTORY

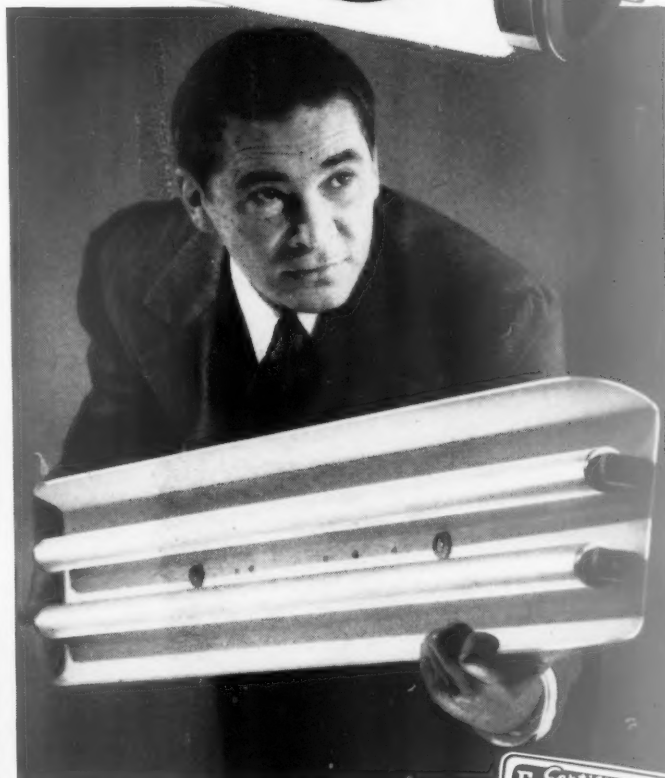
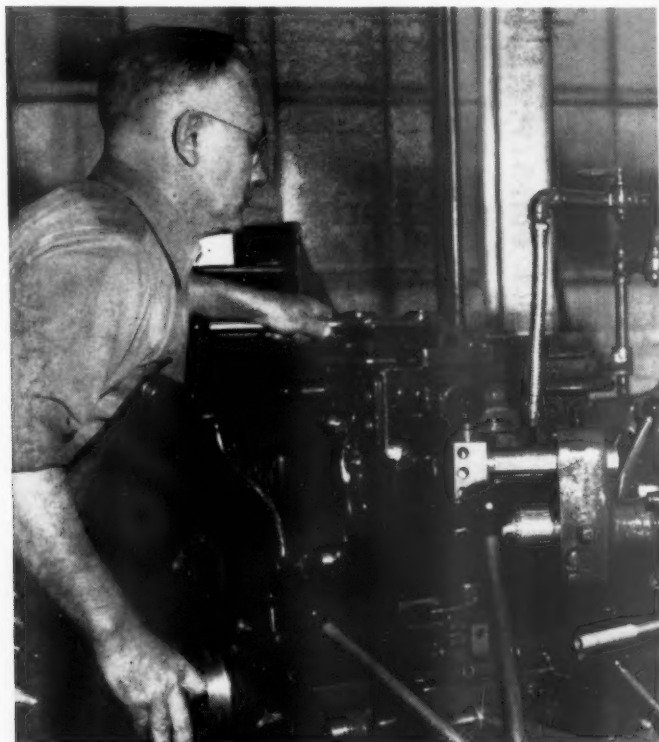
America looks to -



**G-E FLUORESCENT LIGHTING**

is being used more and more widely in defense plants where speed and precision are so vital. The new G-E MAZDA "F" lamps give you two to three times more light for the same current. Look for the G-E monogram on every lamp you buy!

**AIRPLANES, LIKE AUTOMOBILES, NEED SELF STARTERS . . .** and this skilled mechanic is helping turn out starters by the thousand for victory. A precise job—operating that turret lathe—and it's easier because of the battery of G-E MAZDA "F" (Fluorescent) lamps overhead.



**NOT A NEW SUBMACHINE GUN**, but one of more than 150 tested, certified fixtures built by experienced fixture manufacturers and tested by Electrical Testing Laboratories. Look for the Fleur-O-Lier or RLM tag! See your G-E lamp distributor or write General Electric Co., Nela Park, Cleveland, Ohio.



**G-E MAZDA LAMPS**  
**GENERAL  ELECTRIC**

When writing General Electric Co. please mention Purchasing



# GRAPHITIC STEEL MACHINES

# 25%

# FASTER!

Add to this its remarkable non-seizing, non-scuffing, long wearing characteristics and you'll understand why it's in such demand.

Ask for your copy of the new Graphitic Steel Defense Handbook.

**THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO**



**TIMKEN**  
GRAPHITIC STEELS

Manufacturers of Timken-Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery. Timken Alloy Steels and Carbon and Alloy Steels. Tapered Roller and Ball Bearings.

*When writing The Timken Roller Bearing Company please mention Purchasing*



## *If* it's an "inside job," this new weld-cleaning brush can solve it

*Fast cleaning of hard-to-get-at welded joints paves way for speedier production*

● Osborn has blasted a bottleneck—wide open.

Modern production practice calls for cleaning scale and slag from every welded joint before finishing and painting, regardless of where the weld is made. Welds on flat surfaces or outside angles are quickly cleaned with power-driven Osborn cup or wheel brushes.

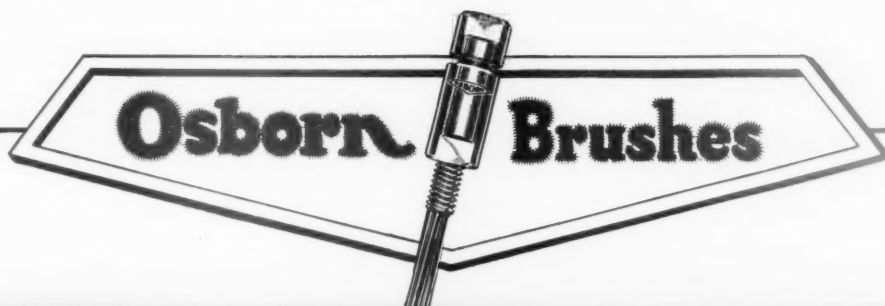
**WORLD'S LARGEST MANUFACTURER  
OF BRUSHES FOR INDUSTRY**

But Osborn men conducting O.B.A.'s (Osborn Brushing Analyses) in plants throughout the country found that inside welds, sharp angled fillets and corners were being laboriously chipped and scraped for lack of a fast, efficient method of reaching these tight spots.

Now Osborn has perfected a wire end brush just for the "inside jobs," the hard-to-get-at welds that up to now have taken so long to clean. Like all Osborn wire brushes it saves time, saves labor and speeds

production. A special holder that fits all standard power tools, air and electric, permits instant replacement of the wire brush part.

Here is the brush that gets into inaccessible places, ferrets out every trace of weld scale without removing the base metal. It's another Osborn "first" that will help you step up output of the materials the nation so urgently needs. For full details write or wire *The Osborn Manufacturing Company, 5401 Hamilton Avenue, Cleveland, Ohio.*



# MACKLIN

## GRINDING WHEELS



### Macklin Wheels Are Uniform

Uniform grinding wheels, after most rigid control of previous operations must be carefully and skillfully finished to exact micrometer limits on the face, sides and arbor hole. Special new and modern lathes operated by experienced craftsmen insure uniformity of size in each and every high quality MACKLIN grinding wheel. Protect Your Production with grinding wheels that are always uniform.

*Ask for Macklin Engineering Service.*



## MACKLIN COMPANY

Manufacturers of GRINDING WHEELS — JACKSON, MICHIGAN, U. S. A.

Distributors in all principal cities

Sales Offices: — Chicago — New York — Detroit — Pittsburgh — Cleveland — Cincinnati — Milwaukee — Philadelphia

*When writing Macklin Company please mention Purchasing*



# MAKE THEM LAST LONGER!

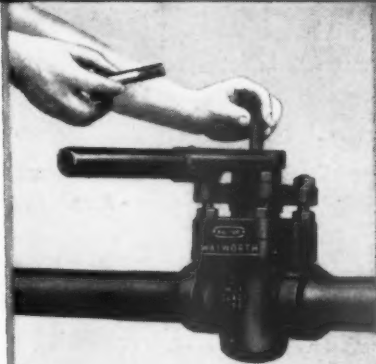
**LUBRICATE  
AT REGULAR  
INTERVALS...**

The conservation of metal is vital. It is essential that your valves are kept in good working condition as long as possible. A few minutes care at regular intervals will mean a longer useful life to your Walworth Lubricated Plug Valves. Check your valves more frequently and provide additional lubricant when necessary.



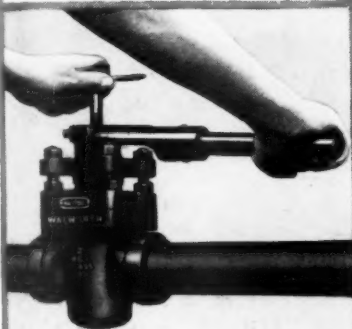
**→2→**

To renew the lubricant in the Walworth Lubricated Plug Valve, remove the lubricant screw. Then place a stick of lubricant in the lubricant chamber. Note:—The service determines the lubricant to be used.



**→3→**

Replace the lubricant screw and tighten it until a back pressure is felt. Add lubricant if system is not completely filled.



**←4←**

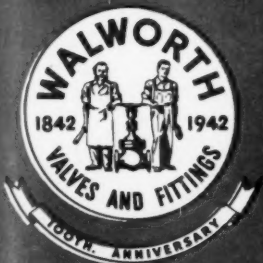
The plug should be moved back and forth slightly while lubricating the valve.



**←5←**

If the plug moves too freely the gland nuts should be screwed down evenly to keep the plug seated and prevent loss of lubricant into the pipeline. Never loosen gland nuts without first lubricating the valve.

## THIS IS OUR CENTENNIAL YEAR



This year marks the 100th Anniversary of the founding of our company, and we had a nice series of "institutional" ads in mind to tell you about it. We hope you saw the first one, which appeared in the January trade publications. Needless to say, that ad was prepared before December 7, 1941, and things have happened since then.

Advertising is conceded to be the most economical means of telling a message to the greatest number of people, and in this period of Priority Production we feel that it is the duty of Walworth

advertising to cooperate in a national program of Salvage, Simplification, Specification, and Substitution.

So we've scrapped the "institutional" ads we had planned for our centennial year, and present a series of ads which we think will help valve and fitting users get more service from their existing Walworth material and thereby permit the output of our five plants to be used to the best advantage for Victory in the great national effort.

# WALWORTH

WALWORTH COMPANY  
60 EAST 42nd STREET, NEW YORK

VALVES  
FITTINGS  
and TOOLS

Backed by 100  
Years' Service

DISTRIBUTORS IN PRINCIPAL  
CENTERS THROUGHOUT THE WORLD

# *Yours*

## BULLETINS

## CATALOGS

## LITERATURE

# ON REQUEST TO AID YOU IN PURCHASING



### 1—Conserve Vital Alloys

**Allegheny Ludlum Steel Corp.,** Oliver Building, Pittsburgh, Pa.

**Contents:** Features "Pluramelt" as a logical means of conserving chromium and nickel, yet at the same time having an exposed steel surface of stainless steel. In the single armor product, a slab of plain steel is integrally bonded on one side with a stainless steel 20% of its thickness. The double armor product has a similar bond of stainless steel on two sides. By using plain steel for the unexposed interior of the slabs, a large amount of critical chromium and nickel is saved. Circular gives full information about Pluramelt products.

### 2—Welding Products

**American Manganese Steel Div., The American Brake Shoe & Foundry Co.,** Chicago Heights, Ill.

**Contents:** Describes Amisco welding products, such as rods of various kinds, filler and flux, and shows by many photographs with suitable text how the use of these products has saved companies time and money in repairing their equipment. Hardfacing applications are stressed, and a table showing what rod to use for various types of jobs. Bulletin No. 941-W.

### 3—Hand Trucks

**The American Pulley Company,** Philadelphia, Pa.

**Contents:** This 20-page catalog features a wide variety of hand trucks for all kinds of use. These range from general utility trucks to barrel, cotton, railroad, stevedore, clamp, cannery, paper roll and carboy trucks. Included are single-handle models, carboy tilters and drum cradles. One section is devoted to truck parts, such as wheels, bearings, hub caps, etc. Photographs and description of each model is given, and complete speci-

fications are listed for each size. Book gives a comprehensive coverage of the two-wheel hand trucks. Catalog T-41.

### 4—Metal Cutting Saws

**American Saw & Mfg. Co.,** Springfield, Massachusetts.

**Contents:** A 32-page, comprehensive catalog on "Lenox" band saw and hack saw blades, which includes useful information about the proper use of saw blades. Discussion ranges from the care with which these blades are manufactured, to a complete description of each type of blade and its uses. Instructive sections give the causes and remedies of hack saw and band saw blade troubles. Catalog No. 42.

### 5—Recessed Head Screws

**American Screw Co.,** Providence, R. I.

**Contents:** Folder explains the advantages and uses of Phillips Plus-Sign head screws. Among the advantages claimed are increased production, safe speed, fewer accidents, simplified design, etc. Photographs show examples of each advantage and several uses. Also shown are types of screw drivers and power bits for use with these screws. 8-pages.

### 6—Abrasive Wheels and Shapes

**Bay State Abrasive Products Co.,** Westboro, Mass.

**Contents:** An instructive book giving useful information about abrasive grains, wheels and shapes. Explains Bay State wheel markings and tells how to select the right wheel for each type of job. Photographs show not only wheels and various abrasive shapes, but many of the products in actual use. A comparative grade chart gives approximate grade comparisons between wheels made by many manufacturers.

### 7—Oilstone Files

**Behr-Manning Corporation, Div. of Norton Company,** Troy, New York.

**Contents:** A folder devoted to oilstone files of all grades, sizes and shapes. The great variety of shapes that these useful tools are available in, are shown by very clear photographs. Tables list the grades, sizes and prices for each style. A very useful folder for the plant using oilstones in their work, and for all tool makers, die makers, master mechanics and instrument or model makers.

### 8—Production Totalizers

**Durant Manufacturing Company,** 1959 N. Buffum St., Milwaukee, Wis.

**Contents:** Four-page circular features several types of "productimeters" for automatically tabulating number of operations or products passing along a con-

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205 EAST 42ND ST., NEW YORK, N. Y.

I wish to receive the following LITERATURE:

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CITY \_\_\_\_\_

STATE \_\_\_\_\_

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# ★ GENERAL INDUSTRIES ★

## PREPARED TO SERVE YOU

### *Making Molded Plastics Parts for Defense*

★ That defense job of yours may call for the production of molded plastics of unusual sizes, or for runs of millions of small parts. Whatever the requirement for size, shape, quantity, quality or finish, depend on it, General Industries has the plant capacity, the equipment, and the experience to meet your specifications at every point and—important to you—to deliver on time.

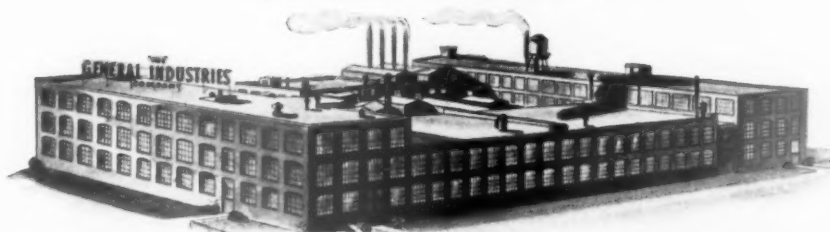
For many years General Industries has been a source of supply for leading manufacturers of electric appliances, industrial equipment, automobiles, radios and other products where accuracy, fine finish and all-through quality are prime requirements.

Our engineers will be glad to cooperate with your departments to the fullest extent.

**WRITE, WIRE, OR  
PHONE Elyria 2238**

**or Phone Office Near You:**

CHICAGO . . . Phone Central 8432  
DETROIT . . . Phone Madison 2146  
PHILADELPHIA . Phone Camden 2215  
NEW YORK . Phone Longacre 5-4107  
INDIANAPOLIS . Phone Lincoln 6317  
MILWAUKEE . . . Phone Daly 4057



**The GENERAL INDUSTRIES Co.**  
MOLDED PLASTICS DIVISION...ELYRIA, OHIO

*When writing The General Industries Co. please mention Purchasing*



# *Yours*

## CATALOGS BULLETINS ON REQUEST LITERATURE

veyor line. Many different kinds of applications of these totalizers are shown by photographs.

### 9—Air Conditioning Units

**Carrier Corporation**, Syracuse, N. Y.

**Contents:** Four 2-page bulletins each feature a self-contained weathermaker for use in commercial establishments requiring duct distribution. Each of these combines in one factory-assembled unit all the functions of true air conditioning. Each type is fully described and a drawing shows all dimensions.

### 10—Machine Saw Attachments

**Continental Machines, Inc.**, 1301 Washington Ave., South, Minneapolis, Minn.

**Contents:** Features numerous attachments of various types for "Doall" hand saws machines. Attachments include saw lubricator, auxiliary work tables, cut-off and mitering devices, guides, supply cabinets, magnifying glasses, etc. Photographs of each item are shown. Prices and sizes are given. 6-page folder.

### 11—Insulating Varnishes and Compounds

**John C. Dolph Company**, 168 Emmett St., Newark, N. J.

**Contents:** An interesting book about many kinds of insulating varnishes and other compounds. The properties and uses of each item are discussed. Products discussed include baking and air drying varnishes, oilproof and machinery enamels, lacquers and insulating compounds for particular purposes. 8½" x 11", 40 pages.

### 12—Direct Fired Heaters

**Dravo Corp.**, 300 Penn Ave., Pittsburgh.

**Contents:** Discusses the construction features, applications and proper installation of several types of gas and oil-fired heaters. Diagrams show the method of laying out different systems, proper spotting of outlets, etc. Photographs supplement the drawings to show actual installations. 8½" x 11", 12 pages.

### 13—Low Temperature Welding

**Eutectic Welding Alloys, Inc.**, 40 Worth St., New York City, N. Y.

**Contents:** Describes the low temperature welding process with Castolin eutectic alloys. Discusses alloy rods and gives information about fabricating machine parts, replacing castings, forgings and stampings, and doing salvage work on defective castings, as well as on parts of aluminum, bronze, nickel and other metals. 8½" x 11", 32 pages.

### 14—Machine Tools

**Ex-Cell-O Corporation**, 1200 Oakman Blvd., Detroit, Mich.

**Contents:** Shows photographs of the company's numerous products, and the men at work in the plant making these products. Also a list of sales representatives and double-page map showing the relation of the company's field staff to the centers where war products are being made. There is likewise a two-page article of educational value about single and multi-point cutting tools for mass production. 16 pages.

### 15—Crucible Melting Furnaces

**Fisher Furnace Company**, 1740 N. Kolmar Ave., Chicago, Ill.

**Contents:** Features a line of stationary crucible melting furnaces for melting copper, brass, bronze, nickel alloys, aluminum and other non-ferrous alloys, gray iron and gray iron alloys. Furnaces are oil or gas fired. Includes data on silicon carbide linings, furnace cement, fuel oil pumps, oil pressure gages, oil pressure relief valves, oil strainers, tongs, etc. 8½" x 11", 8 pages.

### 16—Floor Treatment Product

**Flexrock Company**, 2319 Manning Street, Philadelphia, Pa.

**Contents:** A 4-page bulletin describes "colorflex-plus," a new kind of floor treatment that cleans, colors and preserves wood or concrete floors, either old or new. Colorful illustrations indicate the striking appearance that this product will give. A complete discussion of its use and method of application is briefly presented.

### 17—Standard Tools and Blanks

**Carboloy Co., Inc.**, 11191 E. 8-Mile Blvd., Detroit, Mich.

**Contents:** An 8-page catalog covers its line of standard tools with new prices effective January 1, 1942. Covers all styles and types of standard tools offered, and includes drawings and tables showing major specifications and tool angles. Also includes a considerable number of typical adaptations by which these standard tools can be rapidly converted to special machining requirements. Catalog No. GT-140.

### 18—Rotary Air Pumps and Compressors

**Gast Manufacturing Corporation**, Benton Harbor, Mich.

**Contents:** Contains concise data on the Company's augmented line designed to meet the needs of war production. In addition to illustrations and detailed descriptions of the various models, the catalog presents specifications, engineering data and performance table for 10 sizes of rotary air pumps, ½ to 23 cfm, vacuum 28" and pressures up to 30 lbs. A section of photographs and descriptions covers many actual applications in industry.

### 19—Shipping Containers

**General Box Company**, 48 W. Illinois St., Chicago, Ill.

**Contents:** This 12-page booklet is filled with helpful information about how manufacturers of various types of prod-

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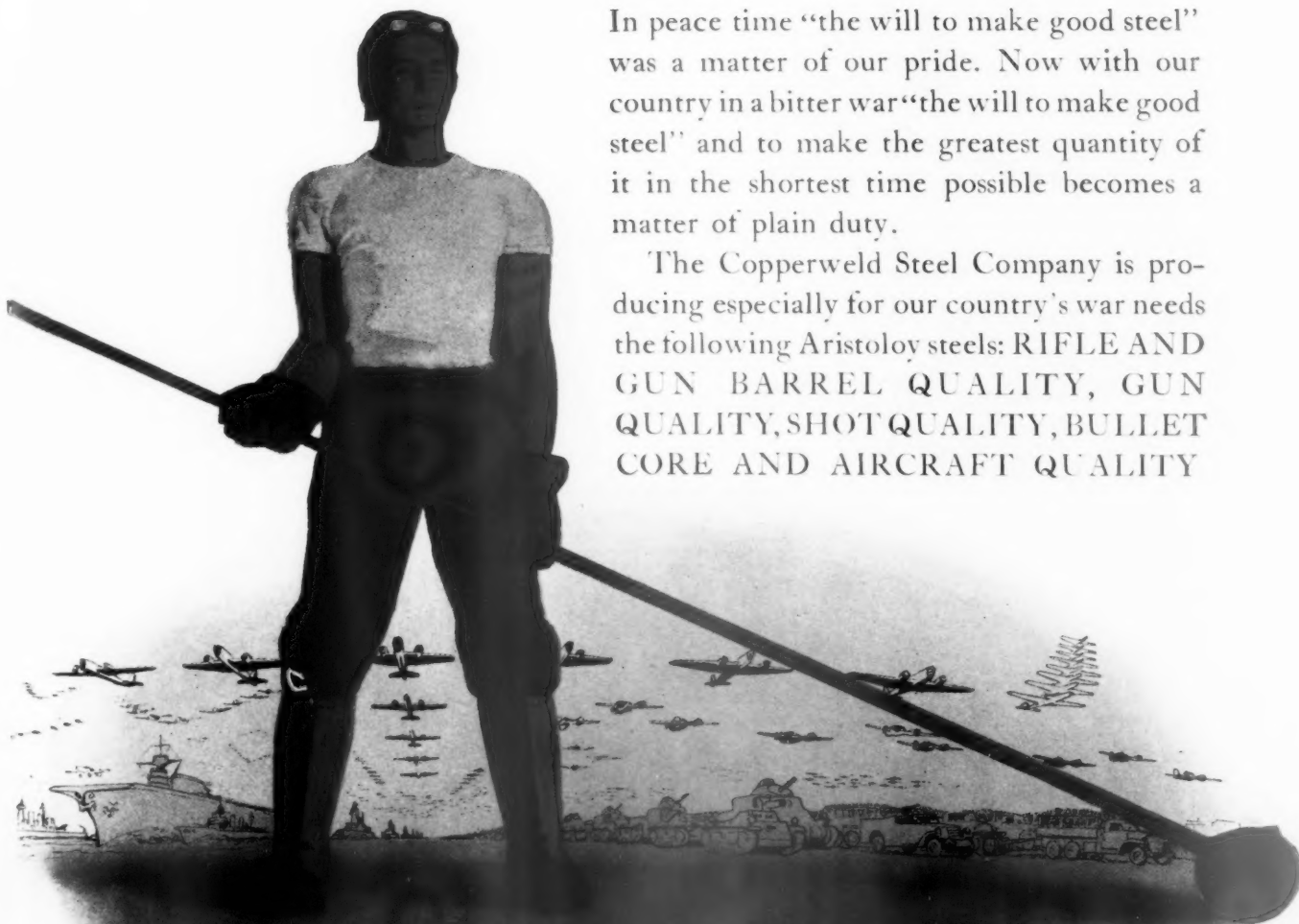
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# *Now, More than Ever \* \* \* \* \**

## THE **WILL** TO MAKE GOOD STEEL

In peace time "the will to make good steel" was a matter of our pride. Now with our country in a bitter war "the will to make good steel" and to make the greatest quantity of it in the shortest time possible becomes a matter of plain duty.

The Copperweld Steel Company is producing especially for our country's war needs the following Aristoloy steels: RIFLE AND GUN BARREL QUALITY, GUN QUALITY, SHOT QUALITY, BULLET CORE AND AIRCRAFT QUALITY



COPPERWELD STEEL COMPANY WARREN, OHIO

**ARISTOLOY  
STEELS**

CARBON TOOL STEELS

STAINLESS STEELS

AIRCRAFT QUALITY STEELS

ALLOY TOOL STEELS

NITRALLOY STEELS

BEARING QUALITY STEELS

**"SPECIAL QUALITY" TOOL AND ELECTRIC FURNACE ALLOY STEELS**

*When writing Copperweld Steel Company please mention Purchasing*

# *Yours*

## CATALOGS BULLETINS LITERATURE ON REQUEST

ucts are solving their shipping problems. Numerous photographs and text show how engineered containers help conserve man-hours, break shipping room bottle-necks, reduce shipping charges, eliminate loss and damage claims, and often lower the original container costs.

### 20—Lighting and Lamps

**General Electric Co., Lamp Dept., Nela Park, Cleveland, Ohio.**

**Contents:** An interesting discussion on how light can help win the war, by H. Freeman Barnes, of G.E. Gives many examples of how better light improved the production and workmanship of manufacturers, and tells what a slight increase in production, possible through better lighting, means in battleships, tanks and airplanes.

### 21—Inkless Strip-Chart Recorders

**General Electric Company, Schenectady**

**Contents:** Describes inkless voltmeters, ammeters and other instruments. Among the advantages claimed are no ink to clog or spill, evaporate or blur; no drying problem where humidity is high, and will operate in temperatures as low as -10 degrees F. or as high as 120 degrees F. Photographs and sample chart recordings are included.

### 22—Special Purpose Belts

**L. H. Gilmer Company, Tacony, Philadelphia, Pa.**

**Contents:** A comprehensive and instructive book about special purpose belts, including the following classifications: high speed, fabric, special endless, round endless, planer, V-belts and "kabel kord"

belts. Complete data on construction, use, selection and care of each type is given, together with photographs of the belt material and actual installations of the belts. Useful tables and formulas pertaining to belt selection are included.

### 23—Tire User's Handbook

**The B. F. Goodrich Co., Akron, Ohio.**

**Contents:** A 100-page booklet providing new data on obtaining maximum service from truck tires. One special section of the book gives charts and tables stressing the value of proper inflation and loads, the dangers in over- and under-inflation, mis-matching of dual tires, causes of uneven tread wear, and the effect of overloads and excessive speeds in generating heat, prime enemy of rubber. Many useful tables to aid in figuring loads and other factors.

### 24—Short Center Belt Drives

**Graton & Knight Co., Worcester, Mass.**

**Contents:** A comprehensive discussion of short center, pivoted-motor base leather belt drives, featuring their reliability, performance, low maintenance and economy. The book is full of useful engineering information about these drives. Includes tables to facilitate belt selection, recommended pulley sizes and numerous diagrams showing various types of installation. One entire section is made up of photographs and descriptive text about actual installations. This latter section may be had showing either Rockwood Pivoted Base or American Pulley Tension-Controlled Drives. Reader should indicate which section he wants included.

### 25—Guide for Fastening Users

**H. M. Harper Company, 2006 Fletcher St., Chicago, Ill.**

**Contents:** Guide to specifying and purchasing non-ferrous and stainless steel bolts, nuts, screws, rivets, washers and accessories. The book is devoted to fastenings of brass, bronze, everdur, monel metal and stainless steel. Included are numerous tables of weights, chemical properties, mechanical properties and standard dimensions. Printed in 4 colors, so as to give the various alloys a natural appearance. Book is 6" x 9" in size, with 80 pages.

### 26—Photo-Copying Machines

**Hunter Electro-Copyist, Inc., Syracuse.**

**Contents:** Features several models of large photo-copying machines. The largest can handle work up to 36" x 88", and the smallest work up to 10" x 16". Large photographs are shown of each of the three models. 8 page folder.

### 27—Portable Demagnetizers

**Ideal Commutator Dresser Company, Sycamore, Illinois.**

**Contents:** One-page circular features a device designed to quickly demagnetize work held in magnetic chucks, tools, dies, etc. It operates on 115 volts, 50-60 cycles, weighs 17 lbs. and is equipped with indicating light.

### 28—Carbon Tool Steel

**Jessop Steel Company, Washington, Pa.**

**Contents:** Discusses the properties and uses of Jessop "Lion Extra" carbon tool steel, an intermediate grade of carbon tool steel useful for making many types of tools. Included is a complete description of hot working and heat treatment, with critical range diagrams, and a list of the recommended tempers for the steel when used for various tools.

### 29—Industrial Safety Products

**Kimball Safety Products Co., 7314 Wade Park Ave., Cleveland, Ohio.**

**Contents:** A set of catalogs arranged in an attractive folio designed for keeping in a letter-size file. Tabs on each catalog classify its contents—eye, body, and hand protection, and welders' supplies. Each book shows clear photographs of all the items described, and gives full specifications. Layout of entire set is well designed for quick reference.

### 30—Laminated Shims

**Laminated Shim Co., Glenbrook, Conn.**

**Contents:** Features their "Laminum" shim which is composed of brass laminations alternating with layers of metal-

**PURCHASING** 205 EAST 42ND ST., NEW YORK, N. Y.

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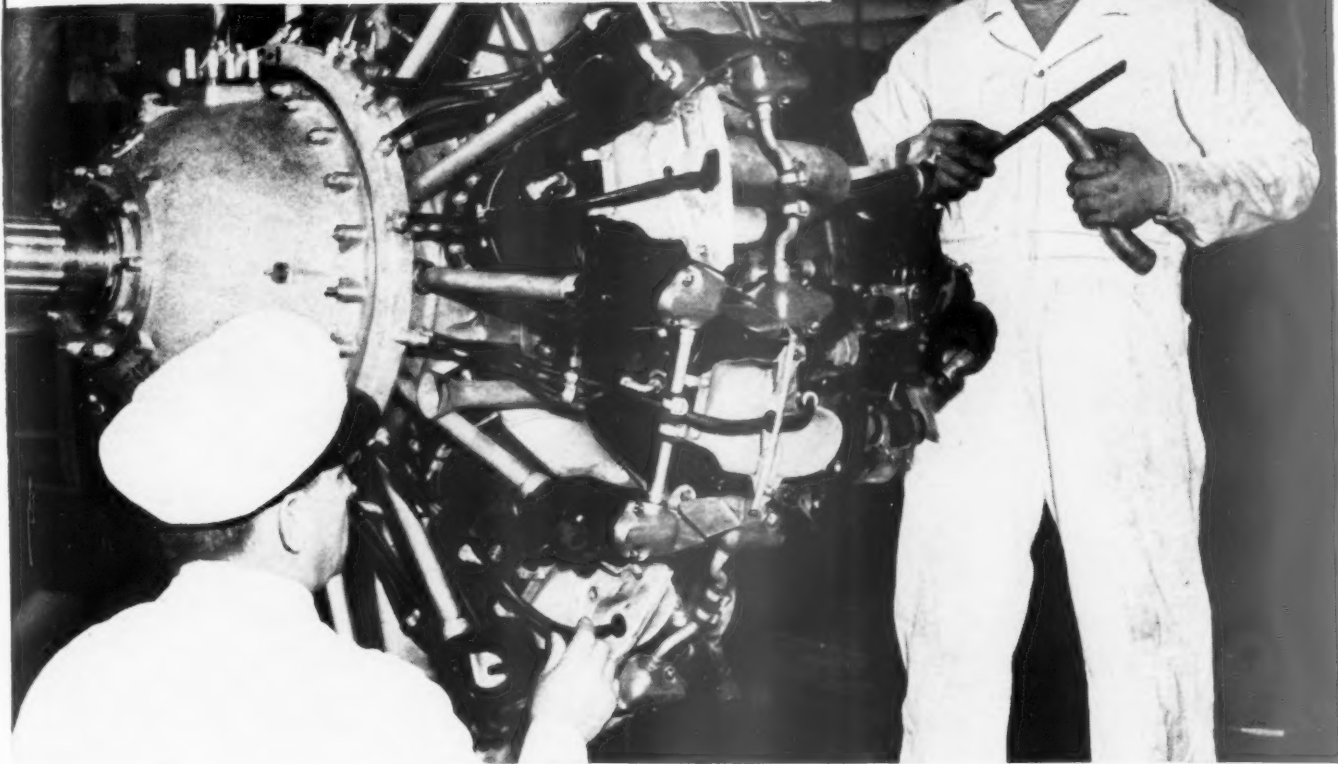
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CITY \_\_\_\_\_ STATE \_\_\_\_\_

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## Where the job is important —files must be right



Ace mechanic touching up an oil-line fixture before attaching to engine being inspected during overhaul job. Courtesy United Air Lines.



To carry assurance of Victory, America's war effort must be *efficient* as well as huge. In engine, aircraft, guns, shells and precision instruments, for example, not a single detail must be left to execution that is just "good enough." Only "the best job that can be done" gets the vigilant inspector's okeh.

Such high standards of workmanship—in *any* industry—demand the right tool, as well as the right man, for the job. In a file it means one that is *correct* in design and size for the kind of metal, shape or part on which it is used; for the amount of metal to be removed and the finish or precision to be attained.

In addition, it must be thoroughly *dependable*—of uniformly fine steel, uniform cut, uniform hardness . . . so that the hundredth file will render exactly the same performance as the first.

There is no better file-selecting guide than the recommendations of the largest manufacturer of quality files in the world—under the Nicholson guarantee of *Twelve perfect files in every dozen*.

Three Nicholson special-purpose files extensively used in war and other industries are shown and briefly described at the right. **TECHNICAL BULLETINS** on these, and also on files for Foundry Castings, Die Castings, Lead, Plastics; and for Die-making, Shear Tooth and Lathe filing, will gladly be mailed on request. Name ones desired. For your file needs, contact your mill-supply house.

**NICHOLSON FILE CO. • PROVIDENCE, R. I., U. S. A.**  
(Also Canadian Plant, Port Hope, Ont.)

# NICHOLSON FILES

FOR EVERY PURPOSE

NICHOLSON  
U.S.A.  
MADE IN U. S. A.

### ALUMINUM TYPE "A" FILE.

Special serrated-tooth and open-throat cut—to prevent clogging and "chatter." For rapid filing of aluminum and other ductile-metal castings, bars and sheets. In flat and half-round shapes, and full range of sizes.



**BRASS FILE.** In addition to a short upcut angle, the teeth of the Nicholson Brass File are made with a very fine and long-angle overcut. This produces small scallops which break up filings and enable file to clear itself of chips. Also prevents "grooving."



### STAINLESS STEEL FILE.

To combat the abrasive action of this steel's hard chromium carbides and nickel alloy, the Nicholson Stainless Steel File is made with teeth cut unlike that of any other file. It enables fast stock removal on thick-section work; smooth filing on thin sections.



When writing Nicholson File Co. please mention Purchasing

# Yours

## CATALOGS BULLETINS ON REQUEST

## LITERATURE

lic binder. Clear photographs show some of the applications of these shims and how their ease of use saves time. The text gives a complete discussion of the properties, designs and advantages of this type of shim. 8-page book.

### 31—CO<sub>2</sub> Recording Equipment

**Leeds & Northrup Company**, 4934 Stenton Ave., Philadelphia, Pa.

**Contents:** This 16-page catalog describes the recent improvements in Micromax CO<sub>2</sub> recording equipment. Covers such features as the use of heavy-walled glass tubing, three-way checking cock made of glass, and the fact that the flue gas sample comes in contact only with glass from the time it leaves the stack until it is automatically analyzed. Contains full size reproductions in color of round and strip-chart records and illustrations of installations.

### 32—Wire Rope Information

**Macwhyte Company**, 2918 Fourteenth Ave., Kenosha, Wis.

**Contents:** This 4-page circular contains a wealth of useful information about wire rope. Stressed are numerous ways to get more use from wire rope and to conserve it by proper application. Photographs show correct and incorrect ways of handling rope, and a sample record form is shown that can be used to advantage to record a complete history of the rope being used in a plant. A question and answer section answers several pertinent questions about wire rope.

### 33—Cleaning of Hands

**Magnus Chemical Co.**, Garwood, N. J.

**Contents:** A 24-page technical bulletin

covering the care and cleaning of hands and arms in the industrial plant. It is written for use by safety engineers, industrial physicians, plant superintendents and other plant men interested in the control of industrial dermatoses. A few of the subjects covered included what a cleaner should and should not do, safe detergents and scouring agents, germicides and medicants, lime scums and rising, cleaning routines and the protection of hands and arms.

### 34—Butterfly Valves

**R-S Products Corporation**, 4530 Germantown Ave., Philadelphia, Pa.

**Contents:** Features standard and special butterfly valves for the control and tight shut-off of air, gas, steam, liquids and semi-solids under high and sub-zero temperatures and varying pressures from 2 to 300 psi. Contains performance characteristics under all conditions of service, manual and automatic control, specifications, flow charts and a discussion and illustration of the use of bronze, steel, meehanite, molybdenum and other metals for special conditions, including solenoid emergency service. Also includes an explanation of wedge-tight shut-off by means of accurate machining and the angle of closing of the butterfly vane against the body of the valve. Cat. No. 10-B.

### 35—Wood Split Pulleys

**The Medart Company**, 3539 DeKalb St., St. Louis, Mo.

**Contents:** A small folder features the characteristics and uses of wood split pulleys, with particular emphasis on the

substitution of wood for steel, as a means of conserving steel for other purposes. These pulleys are offered for prompt delivery—in block, cap and arm type construction, covering the requirements of hundreds of different applications from the smallest to the largest.

### 36—Turret Lathe

**South Bend Lathe Works**, Dept. 9X, South Bend, Ind.

**Contents:** A 4-page bulletin features the 2-H turret lathe, which is adaptable to either long run or small lot production on a wide range of bar, chucking or fixture jobs. Lathe has a capacity of 13½" through the spindle hole, 16" swing over the bed and saddle wings and 1" through the collet. Complete construction features and specifications are given. Bulletin No. 67-T.

### 37—Scales for Aviation Industry

**Toledo Scale Company**, Toledo, Ohio.

**Contents:** A 4-page leaflet gives a pictorial survey of weighing operations in aviation. Also contains photographs of new scale equipment that has been devised to meet such assignments as counting, testing, force-measuring, checking endurance, determining stresses or horsepower and the center of gravity.

### 38—Enclosed Busbar

**The Trumbull Electric Mfg. Co.**, Plainville, Conn.

**Contents:** The 4-page circular illustrates and describes their new type, low voltage drop "Buss-Wa", which is designed to deliver full voltage power at the point of load. This enclosed type of busbar is fully described, and the construction details are clearly shown by photographs. Circular No. 325.

### 39—Hand Pumps

**Watson-Stillman Company**, Roselle, N. J.

**Contents:** Describes hand operated, high pressure pumps for testing purposes and for operating hydraulic jacks and other small hydraulic tools. Pressure capacities range from 1500 to 30,000 lbs. per sq. in. Ten types of pumps are illustrated, including single and double action plunger types.

### 40—Power Switch for Welders

**Westinghouse Electric & Mfg. Co.**, Dept. 7-N-20, East Pittsburgh, Pa.

**Contents:** Six-page folder describes Weld-O-Trol, a power switch for resistance welders. It is said to reduce time-outs for maintenance and to eliminate mechanical delay in contact timing. A schematic diagram shows how the switch, in sizes from 150 to 1200 ampere frame, operates the circuit to the primary of the welding transformer.

## PURCHASING

205 EAST 42ND ST., NEW YORK, N. Y.

I wish to receive the following LITERATURE:

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3/42



**Everywhere...  
SKILSAW TOOLS  
are at the Front  
in the Battle  
of Production!**

**Skil saw Disc Sanders—6 Models.** Speed up all sanding, grinding, filing, metal cleaning and polishing on flat or curved surfaces of wood, metal, compositions.

Wherever the fight for production is fiercest—wherever war materials are being built fastest you'll find SKILSAW TOOLS at work... speeding up jobs in every industry... making each man, each minute more productive... saving days and dollars for quicker Victory!

SKILSAW TOOLS are rugged, reliable, powerful. They work faster, handle easier and do more kinds of jobs. That's why they're preferred so widely in plants making aircraft, tanks and other war materials. That's why they belong in your plant, too, to build *fast* what America needs right now! Ask for a demonstration of SKILSAW TOOLS.

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**SKILSAW** **PORTABLE ELECTRIC** **TOOLS**

★ **FOR THE DEFENSE OF AMERICA** ★

*When writing Skil saw, Inc. please mention Purchasing*



**Skil saw Belt Sander** faster—smoother on compositions. Ideal for best sanding to finest finish or RS-



**Skil saws—9 Model** Save time in plant maintenance. Cut fl in production.



**Skil saw Drills—23** power—more holes drilling from light heaviest boring and

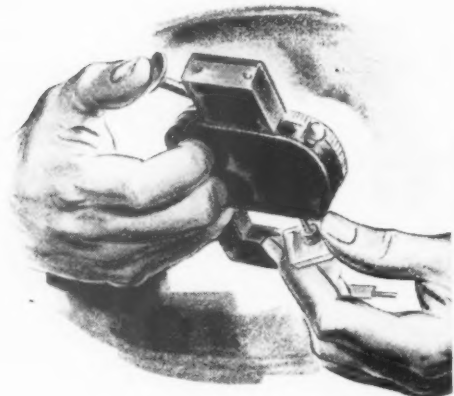


"The next number will be  
free with 6 box tops, followed  
by occasional showers"



Doubletalk? No, it's how radio would sound if stations couldn't be kept on their assigned frequencies. The problem was licked once and for all when engineers discovered how to regulate radio frequencies with a tiny disc of quartz crystal, the thickness of which governs the length of the waves. Precision cutting, grinding and finishing of the quartz, a process Carborundum helped pioneer, makes today's accurate control possible.

No larger than a thumb nail, only about 1/16th inch thick, these oscillators must be finished to limits as close as 1/100th the diameter of a hair. With the aid of Carborundum Brand Abrasive Grains and Powders, the discs are made with optically flat and parallel surfaces, and thickness so accurate it must be measured in terms of light wave length.



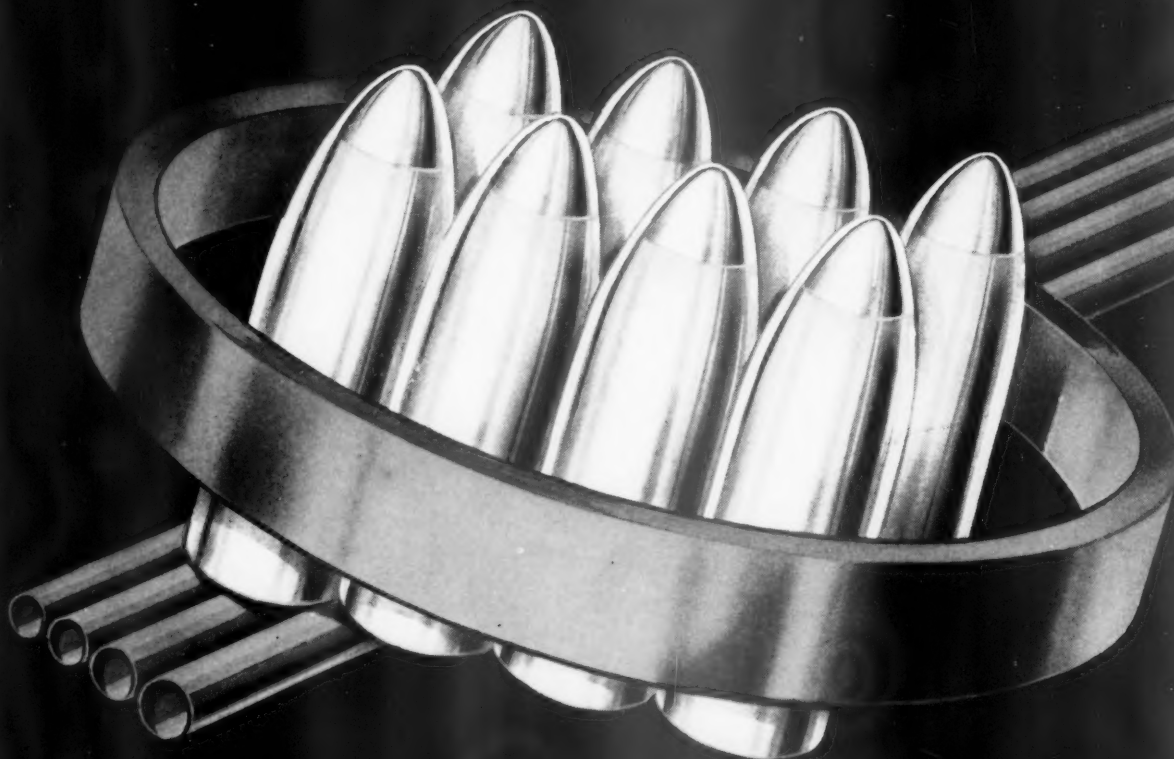
In the development of many modern aids to living, abrasives have played a vital part. And Carborundum skill and knowledge have made much of this progress possible. Perhaps these facilities can help you solve your problem. The Carborundum Company, Niagara Falls, New York.

Carborundum is a registered trade-mark of and indicates manufacture by The Carborundum Company



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## HOW WIDE AND THICK SHOULD A SHELL BAND BE?



Sufficiently thick to fill the groove, to take the rifling, and to withstand the stresses at the moment of greatest angular acceleration. The width depends upon the velocity, and is usually  $1/3$  caliber in high-velocity guns. Narrow bands give less dispersion, but a minimum width is necessary to impart required rotational velocity and prevent undue erosion by escaping hot gases.

### LEWIN-MATHES ROTATING SHELL BANDS

of pure copper or gilding metal have all the qualities you can expect for this important task. They are made true to your specifications. Our electrolytic copper refinery and our own fabricating mill are located within the same plant.

# LEWIN



# MATHES

LEWIN-MATHES COMPANY • • EAST ST. LOUIS, ILLINOIS

*When writing Lewin-Mathes Company please mention Purchasing*

Now, More Than Ever—

**PREVENT  
INJURY!**Cone-shaped  
pein spreads  
the rivetsHeat-treated,  
toughened eye  
to prevent  
breakageHandle kept tight  
by take-up wedgeAdded  
driving power  
thru properly  
centered  
weight back  
of broad  
striking faceOblong eye  
takes full-sized  
sturdy handleScientifically  
tempered face  
crowned and  
champhered to  
overcome chipping**PERFECTED****BALANCE**

**I**NFERIOR grade hammers cannot be allowed to put men out of work, to slow down production, to involve compensation. Use only the best tools—Plumb Tools! The scientifically tempered face, crowned and champhered, to overcome dangerous chipping, and cracking the balanced weight provides perfect control, the Plumb take-up wedge keeps head tight. Note *all* the features of the Plumb Ball Pein Hammer. Play safe—specify Plumb to your mill supply salesman.

**Hard Wear Ahead for Tools**  
Buy the best. Insist on Plumb Quality from your mill supply salesman.  
FAYETTE R. PLUMB

FAYETTE R. PLUMB, Inc. • PHILADELPHIA, PENNA.

**PLUMB**

HAMMERS • HATCHETS • FILES • SLEDGES • AXES

# F.O.B. *Philosophy of buying*

**P**URCHASING men will be interested in the pen-portrait of Mr. MacKeachie by John W. Love, Scripps-Howard staff writer, published last month as the third in a series concerning "the men who have come to the top of the heap in the recent shake-up involving the OPM and WPB." The article is headed: "Yankee Scotsman is Country's Top Purchasing Agent." Mr. Love then says in part:

"There are many remarkable fish in the Washington aquarium, but Mr. MacKeachie is the coldest of them all. Not many know him, and fewer know him well. As traveling salesmen are well aware, Purchasing Agents are trained not to take fire easily, and this Purchasing Agent is one of the least inflammable of all.

"The newspaperman who insists on seeing Mr. MacKeachie does well to have his questions ready. Interviewers do not ordinarily start with a question. They say something to open the conversation, to pry the man's jaw apart. The visitor who begins that way with Mr. MacKeachie will find himself doing all the talking.

"But his arched eyebrows seem to invite questions, and the man who asks intelligent ones will get intelligent answers. 'This is no debating society,' as Mr. MacKeachie is likely to remark in some other connection.

But Mr. Love is thoroughly impressed by the soundness and ability of this young man who came down from his job as New England Director of Purchases for the Great Atlantic & Pacific Tea Company sixteen months ago to advise Mr. Nelson on food purchases under the old NDAC set-up which preceded OPM which preceded WPB. He continues:

"He became civilian adviser to the Quartermaster General's office in the buying of foodstuffs, and he and a few others installed that system of close-in advice and direct participation in buying operations which gave the Army confidence in the Nelson methods. This confidence had much to do with the rise of Mr. Nelson and his man to the

final assignment by President Roosevelt of complete responsibility in purchases and production. Not without significance is the fact that nobody in that agency ever intimated he had shown the Army anything it didn't know already."

And incidentally, there is ample evidence that his work gave Mr. Nelson confidence in the MacKeachie methods, for when Mr. Nelson was advanced from the purchasing department to the general managership of WPB, with complete authority to set up the new organization, he placed the mantle of purchasing responsibility on Mr. MacKeachie's capable shoulders.

It's a healthy sign when the high command can learn some useful tactics from the enemy. We therefore welcome the announcement that Messrs. Nelson and MacKeachie of WPB are "infiltrating" the government buying departments with able representatives from their own purchasing staff.

**F**ASHION is entering America's war-time economy as an ally of conservation and the enemy of hoarding, according to F. S. Blanchard, textile consultant of the Substitution Branch, Bureau of Industrial Conservation. For fashion is always in tune with the spirit of the times. If a few people hoard scarce items which thus become unavailable to the great majority whom fashion must serve, "our hoarding friends will not only find themselves out of tune with patriotic sentiment, they will find themselves out of style!"

**T**HE Office of Price Administration rates a particular commendation for putting the precepts of conservation into practical effect, and anyone who is trying to keep a file of the voluminous releases from Washington will welcome the new

*When writing Fayette R. Plumb, Inc. please mention Purchasing*



format which puts the text of four mimeographed pages on one standard 8 x 10½ sheet. We can't say as much for the expedient of mimeographing on both sides of the sheet, which is messy to look at and inconvenient to use; but when the job is done by offset, reduced to half scale so that a complete two-page release appears as a single unit, and more lengthy orders come four pages to the sheet in clean, compact and legible style, we're all for it. Other government offices please copy.

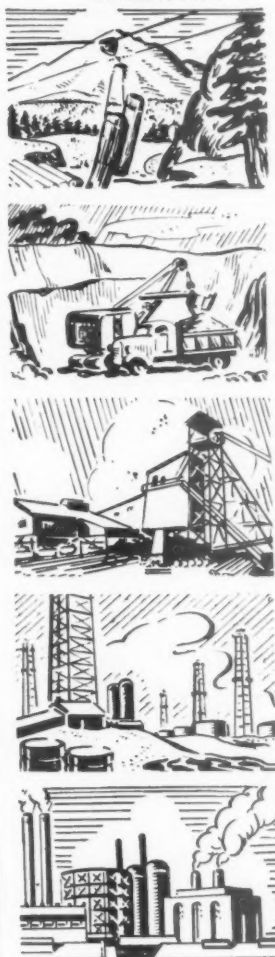
**R**OBERT Believe - It - Or - Not Ripley mentions in his January 18th feature that I. T. Cost is Purchasing Agent for the Clifton Springs (N. Y.) Sanitarium. Equally appropriate for mention, and in the same vein, we might add that N.A.P.A. had George Price of Akron as its president last year, while other members of the Price clan hold important purchasing jobs in Augusta, Me., Springfield, Mass., Mineola Field, N. Y., Newark, N. J., Conshohocken, Johnstown, Lancaster and Pittsburgh, Pa., Salt Lake City, Utah, and Los Angeles, Cal. Perhaps some of our readers can add still more names to the list.

**R**ESearch discovers that the P.A. is a pretty vital factor in management these days! And another researcher (Joseph Sawyer, formerly P.A. for Boston's Economy Grocery Stores and now with the Retail Research Association in New York) passes the discovery along to F.O.B. The paragraph appears in the bi-weekly Business and Legislation report of the Research Institute of America, issue of January 3, where it appears as R. I. A. Recommendation No. 2: "Make sure that your following offices are manned by men about whose ability you have no doubt—in this order:

- (a) purchasing
- (b) production
- (c) accounting
- (d) pricing and costs
- (e) office and personnel management
- (f) sales

These are the men who are going to alternate on the hot seat. Avoid any possibility of having to switch men in the middle of a figurative blackout and expect them to orient themselves to your peculiar business background and problems and the war economy at the same time."

#### LESCHEN Serves All Industries



"HERCULES" (Red-Strand) wire rope is also made in all of the Standard Round Strand constructions — both Preformed and Non-Preformed. A "mis-fit" rope, either in type, construction, or quality, will definitely reduce efficiency. Our experienced Engineering Department will be glad to help you overcome this handicap.

**A. LESCHEN & SONS ROPE CO.**  
WIRE ROPE MAKERS  
5909 KENNERLY AVENUE  
ESTABLISHED 1857  
ST. LOUIS, MISSOURI, U. S. A.

NEW YORK • 90 West Street  
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#### A Time and Material Saving Combination

There are three definite and outstanding factors that enable Preformed Flattened Strand "HERCULES" (Red Strand) Wire Rope to help you speed up production and at the same time conserve needed raw material.

(1) As it is Preformed, it is easier and quicker to handle . . . it spools more smoothly and evenly . . . it offers greater resistance to fatigue.

(2) Due to the exclusive advantages of the Flattened Strand constructions, it is stronger . . . more compact . . . and, because it has a larger and smoother surface, it is better able to resist wear.

(3) Being of the "HERCULES" grade, it is "tops" in quality and advanced manufacturing methods.

Why not utilize the advantages of this wire rope? Its longer life will not only save time and material—but money as well.

When writing A. Leschen & Sons Rope Co. please mention Purchasing

# CRANE *Shop Bulletins*

**1 HELP YOU Train Piping Crews**

**2 HELP YOU Get Better Service  
from Valves and Fittings**

Today's situation calls for round-the-clock production. That means your plant must get better service from valves and fittings, and have better-trained men to keep piping on the job. Crane Shop Bulletins for maintenance workers are aimed to help you get both. Their wealth of practical pointers aids in guiding new men, as well as assists veteran crews in stepping up efficiency of piping equipment.

If your plant is not enjoying the benefits of this timely service, as are countless others, you will certainly want to get in touch with your local Crane Representative today. There is no charge or obligation.



# CRANE

CRANE CO., GENERAL OFFICES:  
836 SOUTH MICHIGAN AVENUE, CHICAGO  
VALVES • FITTINGS • PIPE  
PLUMBING • HEATING • PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES AND WHOLESALERS IN ALL MARKETS

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**We've been saying  
this for years and**

**we say it again**

*B*arnes Service Molybdenum Hack Saw Blades have no superiors on all around production work. Their performance is unexcelled on such materials as stainless steels, chrome, nickel, vanadium and alloys. Many blade users have appreciated this fact since Service blades were first introduced. Many others, under the war time restrictions on high speed steel blades, are just now making the profitable discovery — on the basis of *cost per cut*, you can't beat the Barnes Service Molybdenum. Available in hand and power blades.

Just TRY this blade! . . . Sold throughout the United States by industrial distributors whose service to industry we respect and value.



*"Keep them rolling, keep them flying, keep Democracy from dying"*

—USED BY PERMISSION OF PEARSON AND ALLEN, WASHINGTON MERRY-GO-ROUND

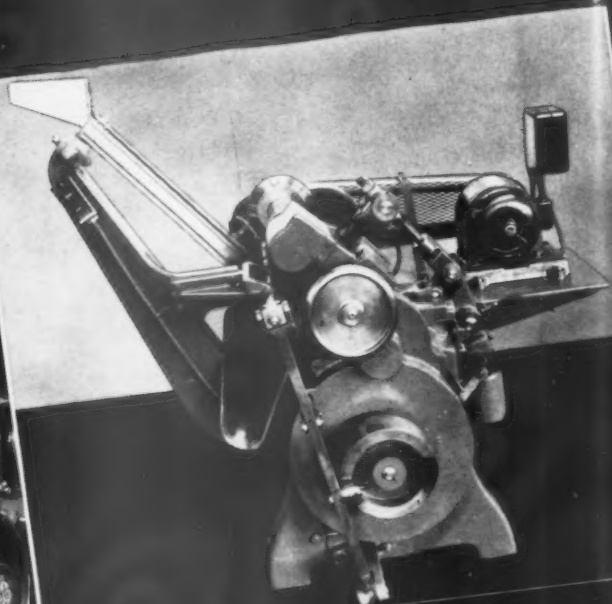
*When writing W. O. Barnes Co. Inc. please mention Purchasing*



# triple-shift operation calls for



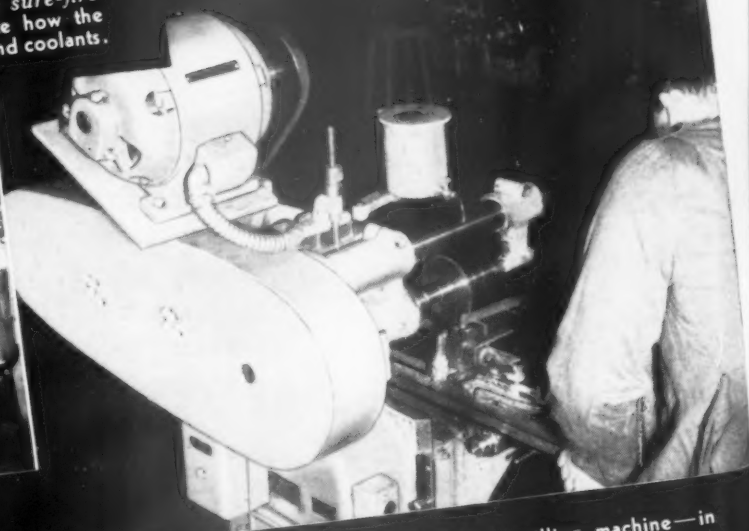
**BURNS** Greater fire power for democracy grows out of sure-fire motor performance on machines like this. Note how the well-protected Tri-Clad motor frame guards the motor from chips and coolants.



This shell-forming machine is typical of many others now in triple-shift operation. Although this Tri-Clad motor is in an exposed location, its cast-iron frame protects it from accidental blows.



**BURNS** Time is short but Tri-Clad motors are quickly installed as well as easily maintained on new machines or old. In this arms plant, Tri-Clad motors furnish smooth driving power to a line of milling machines.



**BURNS** This hand-milling machine—in an Eastern aircraft plant—is driven by a Tri-Clad sleeve-bearing motor. The light weight, compactness, and stamina of this motor make it an excellent choice for machines like this.

BUILT FOR PROTECTION FIRST, THEN TO LAST!

# EXTRA-PROTECTION

Features\* of **TRI-CLAD** Motors

Will Help You Get  
"All-out" Production



**T**HE extra-protection features of the Tri-Clad motor reduce the possibility of interruptions due to motor failure. Chips and coolants are kept out. The stator winding, of Formex wire, is well-nigh impervious to oil, moisture, and heat shock. Improved bearings contribute greatly to sustained operation even under difficult conditions. And besides, Tri-Clad motors are easy to install and convenient to lubricate.

Why not give your vital war production an *extra* measure of protection? Make sure your next motors are Tri-Clad motors. *General Electric, Schenectady, N. Y.*

*\*Extra protection against physical damage, electrical breakdown, and operating wear and tear.*



General Electric and its employees are proud of the Navy award of Excellence made to its Erie Works for the manufacture of naval ordnance.

**YOURS!** Because of General Electric's own triple-shift operation, thousands of these motors are coming off greatly expanded production lines in record time. If you need motors, why not ask your G-E representative about Tri-Clad types and sizes now available?



## LET'S PUT WINGS ON TOMORROW!

Today, Keasbey & Mattison Company is devoting all its energies to the war program. Material shortages and priority restrictions make it impossible for us to serve other than war orders.

But the future looks bright to us. For we've glanced ahead, through research, and when peace returns, new and improved asbestos products will contribute more than ever before to better living

for everyone. It is *tomorrow* . . . not today . . . that will yield the benefits of this projected thinking.

Right now, total victory comes before everything else. There is no room for doubts, delays or complaints. Only *work* . . . hard, unflagging *work* . . . will bring us through the night.

Americans have what it takes; let's get the job done quickly and

completely . . . the sooner to enjoy the things to come!

Let's put wings on Tomorrow!

★ ★ ★

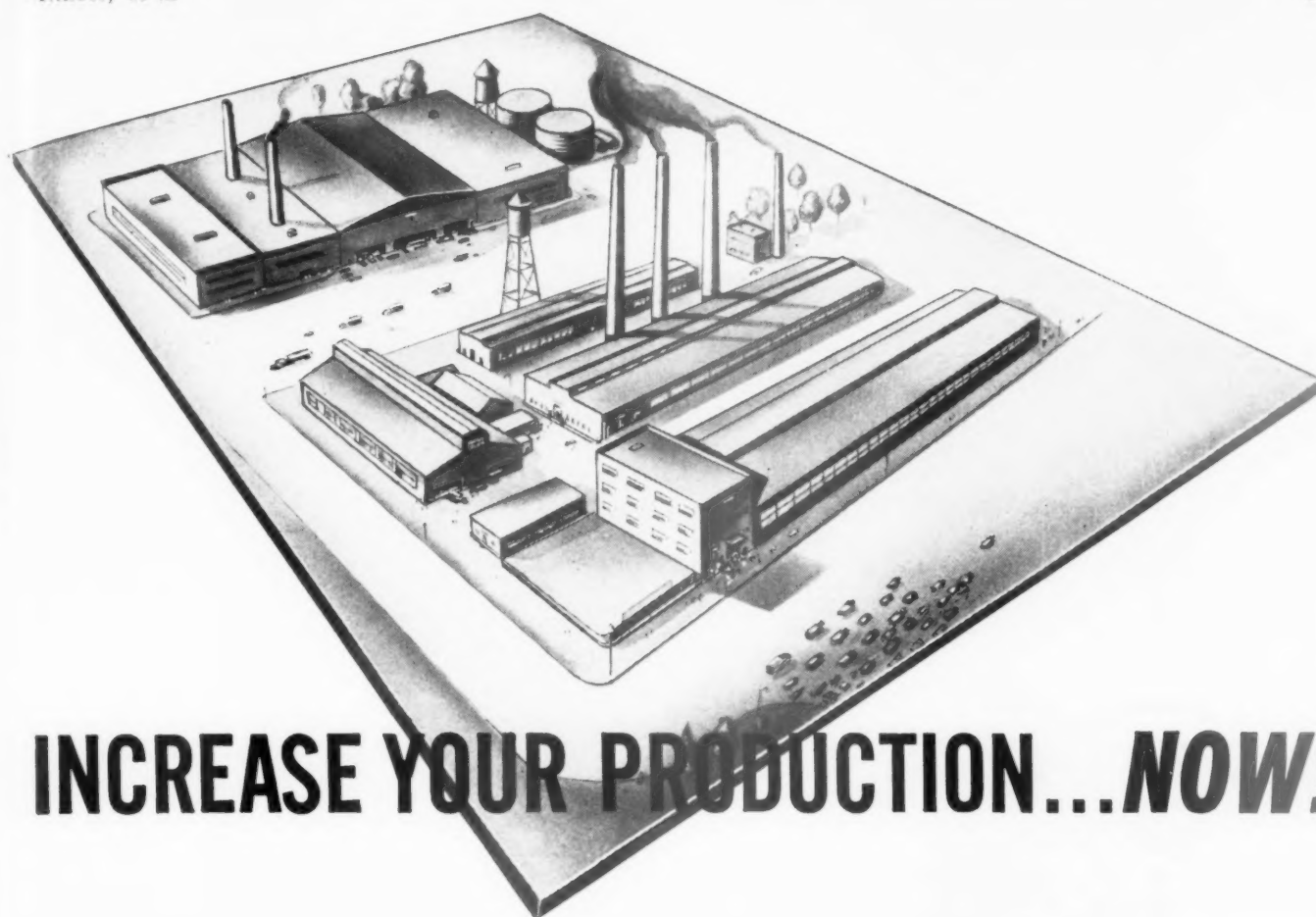
*Nature made asbestos; Keasbey & Mattison has made it serve mankind . . . since 1873.*

**KEASBEY & MATTISON**  
COMPANY, AMBLER, PENNSYLVANIA

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# INCREASE YOUR PRODUCTION...NOW!

**T**O SECURE INCREASED PRODUCTION from every department of your business, the last ounce of energy from your power plant, the last possible unit of output from each and every machine, avail yourself of the services of trained Texaco Lubrication Engineers.

Whether your plant equipment is new or old, regardless of its type or condition, a Texaco Lubrication Engineer will gladly cooperate with your people in keeping your equipment at peak production.

Outstanding performance has made Texaco preferred in the many fields listed in the panel. These Texaco users enjoy many benefits that can also be yours. Phone the nearest of more than 2300 Texaco distribution points in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York, N. Y.

## FOR YOUR ENJOYMENT—Two Great Radio Programs



**FRED ALLEN** every Sunday night. See your local newspaper for time and station.



**METROPOLITAN OPERA.** Complete broadcasts of great operas every Saturday. See your local newspaper for time and station.

## THEY PREFER TEXACO

- ★ More stationary Diesel horsepower in the U.S. is lubricated with Texaco than with any other brand.
- ★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.
- ★ More locomotives and cars in the U. S. are lubricated with Texaco than with any other brand.
- ★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.
- ★ More buses, more bus lines and more bus-miles are lubricated with Texaco than with any other brand.



# TEXACO Lubricants and Fuels

## FOR ALL INDUSTRIES

RETURN METAL DRUMS PROMPTLY . . . thus helping to make present supply meet industry's needs and releasing metal for War Needs.

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# We Serve You by Serving National Defense

Today with all of the production facilities we have working at top speed to serve the cause of National Defense we must, of necessity, slight some of our old friends in industry who are makers of consumer goods and equipment. It's like having only one apple to fill four waiting hands.

But we feel and we hope our friends know that we are serving them best by concentrating our efforts on making forged parts for ships, planes, guns, tanks and other urgently needed weapons of offense and defense.

Industry built Kropp Forge and it is our hope that soon we can again take care of the requirements of industry.

Today, then, we are fulfilling our patriotic duty—we serve you by serving National Defense! Tomorrow we will welcome the opportunity of serving you.

## KROPP FORGE COMPANY

*World's Largest Job Forging Shop*

5301 West Roosevelt Road, Chicago, Illinois

*Representatives in Principal Cities*



The United States Navy Bureau of Ordnance Flag and Navy "E" Pennant for Excellence, rarely awarded material suppliers, flies high at the mast at our plant. We are proud of this recognition of our efforts.

Picture at left of opposite page—official U. S. Navy Photographs; at right, Douglas Aircraft and commercial releases.

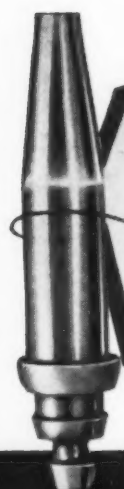


# KROPP





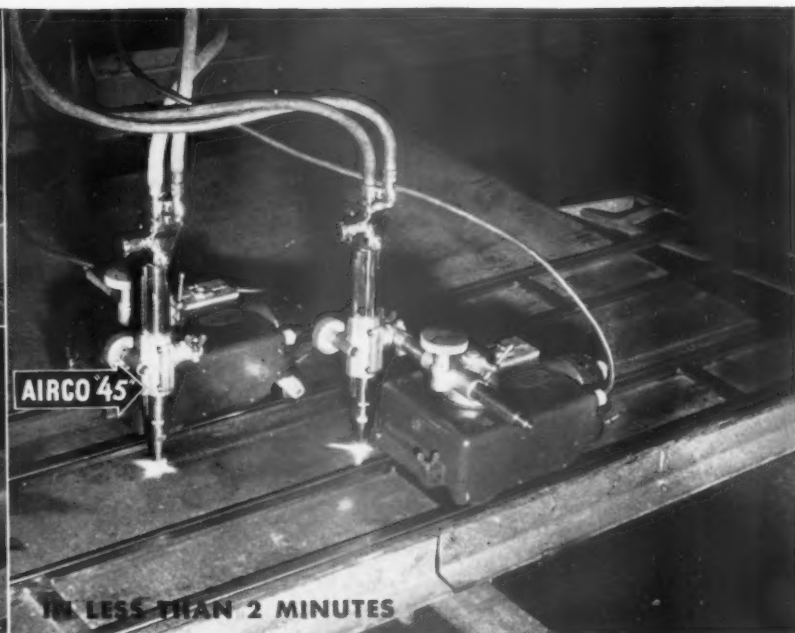
# VISIBLE EVIDENCE



...that the new  
**Airco "45"**

*High Speed* MACHINE CUTTING TIP \*

**Gives 20% to 30%  
Faster Cutting!**



Here's a race that proves you can save precious production hours by use of the new Airco "45" High Speed Machine Cutting Tip. Both of these cutting torches, mounted on Airco Radiographs, started cutting this heavy steel slab together. But at the end of 45 seconds, one cutting machine is far ahead of the other—the machine equipped with the Airco "45" High Speed Tip. Measurement of the lead taken by the Airco "45" equipped machine in a little less than two minutes proves that this tip cuts 20% to 30% faster than the standard cutting tip.

The Airco "45" tip, developed at a time when greater

production is a critical need of the war effort, has a nozzle with a divergent exit portion — a design that makes it possible to eject a narrow, high velocity stream of cutting oxygen. As a result of burning a narrower cut, or kerf, the Airco "45" cuts faster and more economically. In order to obtain these higher speeds, oxygen pressures of from 85 to 125 psi must be used.

Put your machine gas cutting operations in high gear with Airco "45" High Speed Machine Cutting Tips. They are at present available in sizes to cut metal up to 8 inches thick.

\*Method Patent No. 1985080

## Air Reduction

General Offices: 60 EAST 42nd ST., NEW YORK, N. Y.

IN TEXAS

MAGNOLIA-AIRCO GAS PRODUCTS CO.

General Offices: HOUSTON, TEXAS

OFFICES IN ALL PRINCIPAL CITIES



*Anything and Everything for* **GAS WELDING or CUTTING and ARC WELDING**

*When writing Air Reduction please mention Purchasing*

Special machine performs four successive operations on 28 valve guide holes in airplane crankcases. For jobs like this, tools of **MO-MAX** Steel are the logical choice.

## With Less Than 2% of Tungsten **MO-MAX**

**Molybdenum-Tungsten High Speed Steel**

... makes tools 20% more efficient, speeds production, lowers cost. **MO-MAX**, original MOLY high speed steel, standardized on the basis of its nine-year distinguished service record in widest variety of applications, is obtainable from the fourteen independent sources listed below.

|                |                            |            |                               |           |                               |
|----------------|----------------------------|------------|-------------------------------|-----------|-------------------------------|
| "LMW"          | Alleghany Ludlum Steel Co. | "Molite 8" | Columbia Tool Steel Company   | "Tatmo"   | Latrobe Electric Steel Co.    |
| "Mohican"      | Atlas Steels, Ltd.         | "Rex-T-Mo" | Crucible Steel Co. of America | "S.T.M."  | Simonds Saw and Steel Co.     |
| "Bethlehem HM" | Bethlehem Steel Company    | "Di-Mol"   | Henry Disston & Sons, Inc.    | "Mo-Tung" | Universal-Cyclops Steel Corp. |
| "Mo-Cut"       | Braeburn Alloy Steel Corp. | "Rex-T-Mo" | Halcomb Steel Co.             | "Vul-Mo"  | Vulcan Crucible Steel Co.     |
| "Star Max"     | Carpenter Steel Co.        | "Mogul"    | Jessop Steel Company          |           |                               |

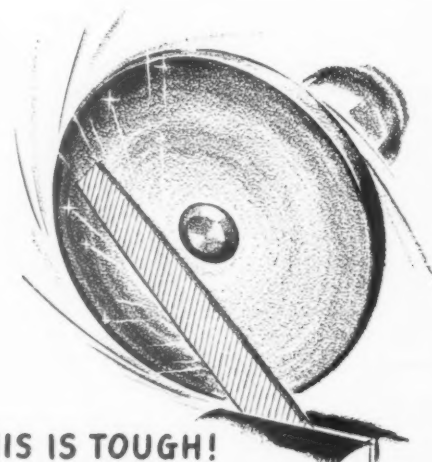
When writing The Cleveland Twist Drill Co. please mention Purchasing

# It's a Fact . . . !



## THIS IS GENTLE!

IT IS A FACT THAT ONE GRADE OF JEWEL SANDPAPERS IS SO FINE, YET SO GENTLE, IT IS USED TO MAKE Dainty Depilatory Mittens . . .



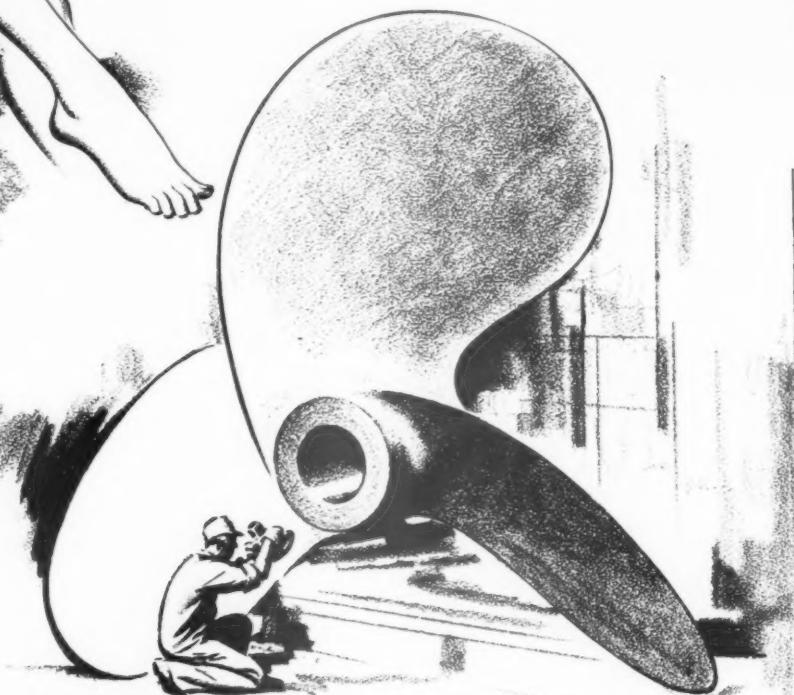
## THIS IS TOUGH!

ANOTHER JEWEL SANDPAPER IS SO TOUGH IT WILL TAKE THE TEETH OFF A HARD STEEL FILE. THE FILE GLOWS RED (1800° F.), BUT THE SANDPAPER IS UNHARMED.



## THIS IS FUN!

STILL ANOTHER GRADE OF JEWEL SANDPAPER SUPPLIES A WHOLE BUSINESS IN THE MANUFACTURE OF TABLE TENNIS PADDLES . . .



## THIS IS BUSINESS!

JEWEL ABRASIVES ARE USED FROM THE FINEST WORK TO THE HEAVIEST DUTY . . . SUCH AS THE FINISHING OF THE MAMMOTH BRONZE PROPELLER ABOVE. YOU WILL FIND A GRIT AND GRADE OF JEWEL ABRASIVES TO DO ANY JOB, AND DO THAT JOB QUICKER, CLEANER AND CHEAPER.

COPYRIGHT 1942 BY ABRASIVE PRODUCTS INC.



# JEWEL ABRASIVES

Made by Abrasive Products, Inc., South Braintree, Mass.

*When writing Abrasive Products, Inc., please mention Purchasing*



# These Are The "MUST" Specifications For Units To Be Employed In Victory Production Lighting

They **MUST**

## STAND UP DAY AND NIGHT

... HEAVY DUTY WAR PRODUCTION SERVICE MUST NOT BE INTERRUPTED BY LIGHTING EQUIPMENT FAILURE DUE TO CHEAP OR FLIMSY CONSTRUCTION.

## BE PROPERLY DESIGNED

... TO SHIELD THE EYES OF WORKERS AGAINST GLARE AND PROVIDE EFFICIENT, UNIFORM LIGHT DISTRIBUTION.

## CONSERVE POWER

... BY PROVIDING WITH THE ABSOLUTE MINIMUM OF POWER CONSUMPTION THE HIGH LIGHT LEVELS OF 35 TO 100 FOOT-CANDLES REQUIRED FOR VICTORY PRODUCTION.

## NOT WASTE LIGHT

... THE REFLECTING SURFACE MUST HAVE HIGHEST PRACTICAL REFLECTION FACTOR AND MUST BE EASILY MAINTAINED AT ORIGINAL EFFICIENCY.

## CONFORMANCE IS ASSURED WHEN YOU SPECIFY BENJAMIN FLUORESCENT LIGHTING EQUIPMENT

THE lighting must not fail! There can be no blackout of production due to lighting equipment failure. Neither can there be waste of power or light! Day and night production must be maintained at its highest possible rate with lighting that speeds seeing, conserves the eyesight of the workers, and helps them to sustain production speed and product quality, with a minimum of fatigue.

These are the specifications met by Benjamin Fluorescent Lighting Units. Designed and constructed with that extra safety factor of strength and durability which Benjamin through 40 years of experience has found essential in industrial lighting, these units can be depended upon to provide lighting that will not fail! Protected by Benjamin life-time porcelain enamel finish, these units are constructed to withstand the severe mechanical strains

to which they may be exposed in ordnance and industrial plants... smoke, fumes, grime, dust, weather, etc. With this finish, maintenance of original lighting efficiency is assured as this surface does not corrode, tarnish, oxidize or decompose and can easily be cleaned and restored to original efficiency with soap and water.

Available for the lighting of plants engaged in the production of war materials and essential civilian production are: Benjamin RLM "Lite-Line" equipment which provides continuous lines of light across the entire ceiling... Benjamin RLM "Stream-Flo" Units, and Benjamin Dust Tight Fluorescent Lighting Units, for requirements of armament plants and other Type II-G hazardous locations. For complete details, address Benjamin Electric Mfg. Co., Dept. Y, Des Plaines, Illinois.



# CUTTING THROUGH



**F**OR many years in civilian production—today in defense production—and tomorrow, whatever the production needs may be . . . National Cutting Tools will continue to merit the confidence placed in them by American Industry.



## NATIONAL

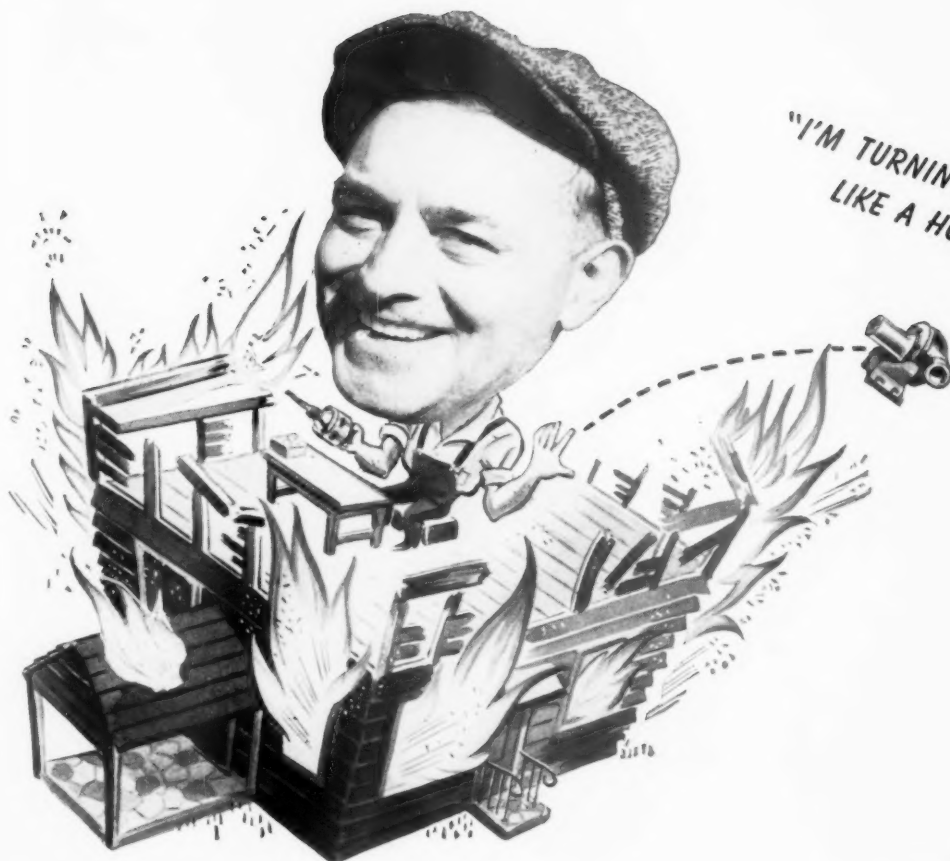


**TWIST DRILL AND TOOL COMPANY**

Home Office and Factory—DETROIT, MICH.

Tap and Die Division—Winstar Brothers Co., Wrentham, Mass.

*When writing National Twist Drill & Tool Co. please mention Purchasing*



"AND DON'T FORGET...  
PHILLIPS SCREWS COST LESS TO USE!"



## Faster Driving • Fewer Operations • Stronger Fastenings = 50% Less Assembly Cost with Phillips Screws!

Consider the more frequent use of power drivers with Phillips Screws. There's no danger of driver point slipping from a Phillips recess, so there's no need to go slow. Phillips cuts actual screw-driving time to a fraction.

Add the saving through eliminating the extra work required with slotted screws — drilling pilot holes, two-handed starting, withdrawing crooked screws, driving in awkward positions, etc. Phillips Screws set up tight — without split screw heads or burrs

—at an average cost saving of 50%.

Busy defense plants are using Phillips for double-quick assembly speed. Non-defense plants use Phillips for 50% less assembly cost. Get the facts from one of the firms listed below.



### PHILLIPS RECESSED HEAD SCREWS

GIVE YOU *2 for 1* (SPEED AT LOWER COST)

WOOD SCREWS • MACHINE SCREWS • SHEET METAL SCREWS • STOVE BOLTS • SPECIAL THREAD-CUTTING SCREWS • SCREWS WITH LOCK WASHERS

U. S. Patents on Product and Methods Nos. 2,046,343; 2,046,837; 2,046,839; 2,046,840; 2,082,085; 2,084,078; 2,084,079; 2,090,338.  
Other Domestic and Foreign Patents Allowed and Pending.

American Screw Co., Providence, R. I.  
The Bristol Co., Waterbury, Conn.  
Central Screw Co., Chicago, Ill.  
Chandler Products Corp., Cleveland, Ohio  
Continental Screw Co., New Bedford, Mass.  
The Corbin Screw Corp., New Britain, Conn.

International Screw Co., Detroit, Mich.  
The Lamson & Sessions Co., Cleveland, Ohio  
The National Screw & Mfg. Co., Cleveland, Ohio  
New England Screw Co., Keene, N. H.  
The Charles Parker Co., Meriden, Conn.  
Parker-Kalon Corp., New York, N. Y.  
Pawtucket Screw Co., Pawtucket, R. I.

Pheol Manufacturing Co., Chicago, Ill.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Scovill Manufacturing Co., Waterbury, Conn.  
Shakeproof Inc., Chicago, Ill.  
The Southington Hardware Mfg. Co., Southington, Conn.  
Whitney Screw Corp., Nashua, N. H.

*When writing Phillips Licensees please mention Purchasing*



**THIS "ALL-OUT" BARRIER**  
 says **KEEP OUT** in Any Language!



**ANCHOR FENCE Keeps Out  
 Saboteurs, Trouble-Makers**

YOUR BEST DEFENSE IS AN  
**ANCHOR  
 FENCE**

**H**ERE'S one way to keep alien agents from throwing monkey wrenches into the machinery of defense. Install an Anchor Fence around your plant—and special Anchor enclosures *within* your plant to bar unwanted snoopers and saboteurs from your power stations, transformers, laboratories, chemical and material stocks, fuel supplies and other vital points.

Anchor Fences can be quickly erected in any soil, in any weather, even when the ground is frozen.

The exclusive, patented, driven "Anchors" hold the fence erect and in line, resist terrific force, yet can be moved without loss in case of plant expansion.

• • •

*Send for an Anchor Fence Engineer.* Get the benefit of Anchor's 50 years of industrial fencing experience. Write now for Catalog—and name of nearest Anchor Fence Engineer. Anchor Post Fence Co., 6615 Eastern Ave., Baltimore, Maryland. **1892-1942 Fifty Years of Service**

**NATION-WIDE SALES AND ERECTING SERVICE**



### Make the Most of Available Tools and Space

... Lyon Storage and Shop Equipment make it easier ... and quicker ... to get organized for high-speed production.

### Shop Containers of the Most Efficient Sizes and Shapes



... Lyon has been designing and manufacturing shop boxes for 40 years. As a result, most requirements can be met without the delays incident to tooling up for special designs.

### Faster Handling of Parts in Work



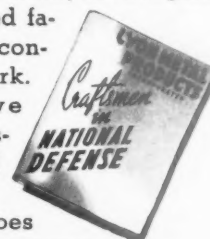
... The Lyon Products shown here represent only a small part of the Lyon Equipment that helps increase the effectiveness of available tools, floor space, materials and manpower.

If your war production problems include conservation of floor space, faster handling of tools and materials, or increasing the productive hours of workers, send for the latest Lyon Shop Equipment Catalog illustrated here.



### LYON CAN MAKE IT

... If your war production includes volume output of units or parts of units fabricated from No. 10 to No. 24 gauge sheet metal, investigate Lyon's unmatched facilities for sub-contracting such work. Comprehensive brochure, "Craftsmen in National Defense" illustrates and describes Lyon plants and equipment.



**LYON METAL PRODUCTS, INCORPORATED**  
General Offices: 3303 Madison Ave., Aurora, Ill.  
Branches and Distributors in all Principal Cities



When writing Lyon Metal Products, Incorporated please mention Purchasing

# Mr.P.A.

**YOU'VE GOT A BIG JOB  
HELPING MAKE AMERICA  
STRONG**

## Let Us Help You Do It

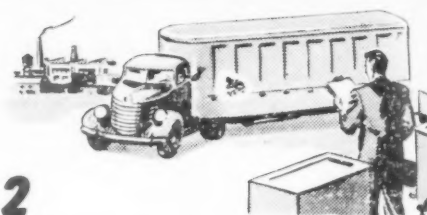
Distributors of Graton & Knight Leather Products offer you **SEVEN SERVICES** to help overcome problems of material shortage, delayed deliveries, and rising costs.

The following recommendations for improving production have been made by defense authorities. Graton & Knight Distributors can be of practical help to you in carrying out these suggestions.



**1** You can save office detail if you bulk many of your orders and place them through us.

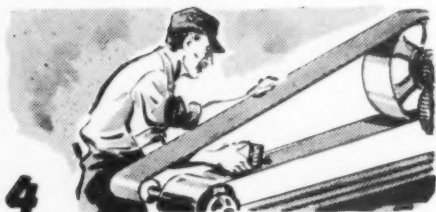
On items like leather belting, belt fasteners, fittings, portable tools, bearings, etc. — you can save time, paper-work and worry (and often get immediate delivery) by ordering from your distributor.



**2**

Buy from your distributor to get the delivery you want. We know several sources.

Not only other suppliers with whom we may have connections . . . but also plants owning but not operating equipment you need. Don't resign yourself to a long wait until you're sure we, too, can't locate it in a hurry.



**4** Keep equipment in best condition by improved maintenance methods. We can suggest them.

Tool life, for example, may be lengthened by hard-surfacing, oilstoning, proper cooling and holding; leather belt efficiency and life increased by regular dressing. We can furnish materials for proper maintenance.



**5**

Step up production through use of best quality supplies. We carry them for you.

Use proper grades of lubricating oils, select most efficient bearings to get top production. Also, use Research Leather Belting which is guaranteed to give you 3% more production.



**6**

Use standard equipment to save costs and delivery time. Let us suggest where to eliminate specials.

We can show you where slight specification changes may bring delivery dates much closer. Use of leather belting and standard flat-face pulleys avoids long waits for special hard-to-get sheaves and rubber V belts.

# GRATON & KNIGHT COMPANY

WORCESTER, MASSACHUSETTS

*Only leather belting manufacturer with complete nationwide service facilities*



## These Graton & Knight Distributors can help you contribute maximum production for defense. Call upon them.

### ALABAMA

Birmingham — The Young & Vann Supply Co.  
Mobile — McGowin-Lyons Hdwe. & Supply Co.

### ARIZONA

Kingman — Tarr, McComb & Ware Commercial Company  
Phoenix — Pratt-Gilbert Hardware Company  
Tucson — Albert Steinfeld & Company, Inc.

### ARKANSAS

Helena — Lewis Supply Co.  
Pine Bluff — Arkansas Mill Supply Co., Inc.  
Texarkana — Buhrmann-Pharr Hardware Company

### CALIFORNIA

El Centro — Imperial Hardware Co.  
Los Angeles — Frey Industrial Supply Co.  
Oakland — Bay City Iron Works  
San Francisco — Honolulu Iron Works Co.

### CONNECTICUT

Bridgeport — Hunter & Havens, Inc.  
New Haven — The Page, Steele & Flagg Company  
Plainville — Ideal Machinery Co.  
Stamford — The Geo. W. Southwick Co.  
Waterbury — The White Supply Co.

### DISTRICT OF COLUMBIA

Washington — National Equip. & Supply Company

### FLORIDA

Jacksonville — The Cameron & Barkley Co.  
Miami — The Cameron & Barkley Co.  
Tampa — The Cameron & Barkley Co.

### GEORGIA

Atlanta — Fulton Supply Co.  
Columbus — Columbus Iron Works Co.  
Rome — Battery Machinery Company

### ILLINOIS

Chicago and Moline — Sterling Products Company, Inc.  
Decatur — The Field & Shorb Co.  
Quincy — E. Best Plbg. & Htg. Supply Co.

### INDIANA

Indianapolis — Van Camp Hardware & Iron Co.

### IOWA

Des Moines — Globe Machinery & Supply Co.

### KANSAS

Leavenworth — Great Western Mfg. Co.

### KENTUCKY

Louisville and Lexington — Tafel Electric & Supply Co.  
Paducah — Henry A. Petter Supply Co.

### LOUISIANA

Monroe — Weeks Supply Company, Ltd.  
New Orleans — Standard Supply & Hdwe. Company, Inc.

### MAINE

Portland — W. L. Blake & Company

### MARYLAND

Baltimore — The L. A. Benson Company, Inc.  
Salisbury — The R. D. Grier & Sons Co.

### MASSACHUSETTS

Fall River — Harold F. Wordell  
Holyoke — J. Russell & Co., Inc.  
Lowell — The Fairgrieve Belting Co., Inc.  
New Bedford — Manufacturers' Supply Company, Inc.  
Taunton — The Pierce Hardware Co., Inc.

### MICHIGAN

Battle Creek — Kendall Hdwe. & Mill Supply Company  
Escanaba — Delta Hardware Co.  
Houghton — I. E. Swift Company  
Lansing — Michigan Supply Co.  
Marquette — Soo Marquette Hardware Company  
Menominee — Northern Hdwe. & Supply Company  
Sault Ste. Marie — Soo Hardware Company

### MINNESOTA

Duluth — Kelley-How-Thomson Co.

### MISSOURI

Kansas City — H. R. Williams Mill Supply Co.  
St. Joseph — Jamieson Machine Company

### NEBRASKA

Omaha — American Machinery & Supply Company

### NEW HAMPSHIRE

Keene — M. S. Perkins Machine Co.

### NEW JERSEY

Newark — Dodge-Newark Supply Co., Inc.  
Passaic — New Jersey Eng. & Supply Company

### NEW YORK

Buffalo — Weed & Company  
Elmira — Barker, Rose & Kimball, Inc.  
Lockport — Ward Brothers Mill Supply Co., Inc.  
Newburgh — W. L. Smith  
Rochester — Haverstick & Company, Inc.  
Troy — Fred K. Blanchard, Inc.

### NORTH CAROLINA

Charlotte — The Textile Mill Supply Co.

### OHIO

Akron — The Hardware & Supply Co.  
Cincinnati — The Scallan Supply Co.  
Cleveland — The Geo. Worthington Co.  
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Dayton — Dayton Industrial Supply Co.  
Mansfield — The Hughes Supply Company

### OREGON

Klamath Falls — Lorenz Company  
Portland — Harris Supply Company

### PENNSYLVANIA

Allentown — William H. Taylor Co., Inc.  
Pittsburgh — Somers, Fidler & Todd Co.  
Reading — Brown Engineering Company  
Scranton — The Chas. B. Scott Company  
Wilkes-Barre — Eastern Pennsylvania Supply Co.  
York — George F. Motter's Sons

### RHODE ISLAND

Providence — W. E. Lamarine

### SOUTH CAROLINA

Charleston — The Cameron & Barkley Co.  
Greenville — Hugh Black

### TENNESSEE

Jackson — Southern Supply Company  
Knoxville — Tennessee Mill & Mine Supply Co.  
Memphis — Lewis Supply Company  
Nashville — Keith, Simmons Co., Inc.

### TEXAS

Dallas — The Murray Co.  
El Paso — Momen-Dunnegan-Ryan Co., Inc.  
Houston — Peden Iron and Steel Company

### UTAH

Salt Lake City — The Salt Lake Hdwe. Co.

### VERMONT

Burlington — Hagar Hdwe. & Paint Co.

### VIRGINIA

Lynchburg — Barker-Jennings Hdwe. Corp.  
Newport News — Noland Company, Inc.  
Norfolk — Taylor-Parker Company, Inc.  
Richmond — Smith-Courtney Company  
Roanoke — Noland Company, Inc.

### WASHINGTON

Aberdeen — Mill & Logging Supply Co.  
Seattle — Chas. H. Harden Co.  
Spokane — Washington Machinery & Supply Co.  
Tacoma and Olympia — Ducharme Belting Co.  
Yakima — Yakima Hardware Company

### WEST VIRGINIA

Elkins — Valley Supply Company  
Fairmont — Fairmont Supply Co.  
Huntington — Banks-Miller Supply Co.

### WISCONSIN

Eau Claire — W. H. Hobbs Supply Co.  
Green Bay — Morley-Murphy Company  
Milwaukee — Morman Belting & Supply Company  
Racine — Mohr-Jones Hardware Co.  
Sheboygan — Frank Gele Hdwe. Co.  
Wausau — D. J. Murray Mfg. Co.

3

Get increased production by modernizing your old equipment. We can show you how to do it.

Retired machines often can be refitted to approach new-machinery performance. For example, efficient short-center flat belt drives will step up production. Used leather belting also can be rebuilt at small cost.

7

If you have big defense orders, parcel out some of the work. We can tell you where.

Our knowledge of productive capabilities of other firms in your vicinity is a valuable guide in placing sub-contracts. Many non-defense plants undoubtedly have machinery and men to turn out work you need.

Flat Leather Belting  
Round Leather Belting  
Flat Leather Link Belting  
Leather V Belting  
Belt Dressings  
Belt Cements  
Lace Leather  
Leather Packings  
Textile Leathers

GRATON  
AND  
KNIGHT

*"The time has come," the Walrus said  
"To talk of many things..."*



## OF SHOES, AND SHIPS, AND SEALING WAX .....OF CABBAGES AND KINGS!"

—Alice Through the Looking Glass, Lewis Carroll,  
Courtesy of D. Appleton-Century Co. Inc.



What have all these topics in common? *Adhesives!*

In the manufacture of shoes—and innumerable other items of military equipment—adhesives and starches are highly essential.



Every ship—or tank, or plane—is made up of thousands of parts. In many of these, adhesives are an important ingredient—but *all* must be wrapped, packaged, or labeled with adhesives.



Sealing-wax suggests envelopes, paper, and documents. Paper in any form requires adhesives.



Foodstuffs are labeled with adhesives. The corrugated cases in which they are packed are made, sealed, and labeled with adhesives.



Dictators and emperors? Adhesives are helping put them out of business. Industrial materials are as important as shells and military equipment—and it takes adhesives to make them all!

*When obtaining your priorities, don't forget adhesives. Our Priorities and Conservation Department will gladly give you any required information or assistance along these lines.*

# NATIONAL ADHESIVES

DIVISION OF  
**NATIONAL STARCH PRODUCTS Inc.**

820 GREENWICH STREET • NEW YORK

*When writing National Starch Products Inc. please mention Purchasing*

I NEED

# Balance

IN SKATING

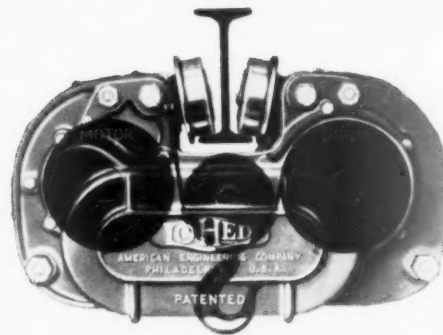


"I NEED BALANCE IN SKATING"  
says Bess Ehrhardt, lovely  
Star of "Ice Follies of 1941"

## AMERICAN ENGINEERING COMPANY

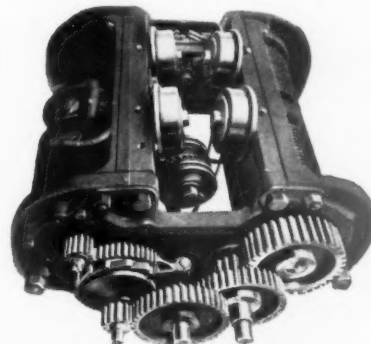
The Lo-Hed Hoist Is Applicable To Any Monorail System  
There's A Balanced Lo-Hed Electric Hoist For Every Purpose

OTHER A-E-CO PRODUCTS: TAYLOR STOKERS, MARINE  
DECK AUXILIARIES, HELE-SHAW FLUID POWER  
Look in your Classified Telephone Directory under "A-E-CO  
LO-HED HOISTS" for your nearest representative.



## You Need BALANCE in a HOIST

**LO-HED, the Balanced Hoist.** It's balance that makes the difference between a Lo-Hed and any other hoist. In this different hoist the motor and drum are on opposite sides of the beam. The hook goes up so close to the beam you can scarcely jam your thumb between. You get a compact, balanced hoist, minimum headroom, efficient spur gearing, and a sturdy frame, plus all the practical features a hoist should have. A Lo-Hed is worth a few dollars more but it will make a difference in your operating and maintenance costs. Look at a Lo-Hed and you won't have to look further. Write for Lo-Hed catalog today.



### LOOK AT THE BALANCED LO-HED!

**It Costs Less To Operate**—All gears are efficient stub-tooth spur gears running in a sealed oil bath . . . gear shafts and trolley wheels are equipped with heavy-duty ball or roller bearings.

**It Costs Less To Maintain**—Sturdy construction . . . seldom, if ever, requires removal from rail . . . covers of controller, motor, drum and gearing are easily removed.

**It's Safe**—Factor of safety of over 5 at full capacity . . . 100% Positive Automatic Stop when load reaches upper limit . . . Automatic Holding Brake prevents load from drifting when current is shut off . . . short, strong shafts minimize torsional stresses.

**It's Protected**—Controller is fire, dust and moisture proof . . . motor totally enclosed . . . gearing sealed in . . . motor and drum covered by easily removable covers.

AMERICAN ENGINEERING COMPANY  
2462 Aramingo Avenue, Philadelphia

- ☐ Please send me your complete catalog of LO-HED HOISTS.
- ☐ Ask your representative to get in touch with me promptly.

Name

Company

Street Address

City  State

(Please print plainly)

When writing American Engineering Company please mention Purchasing



# *So THAT'S why* **WeldELLS** *line up so well—*



**I**F you know WeldELLS, you know how easy it is to line them up. Of course there's a reason for this: Before machining, each WeldELL undergoes a "truing" operation to bring it to exact size and form. This operation assures the uniformly accurate bevel and land, and the true-circle ends that make WeldELLS just a little easier to line up and weld.

This extreme dimensional accuracy is just one reason why so many of the men who are responsible for the design, operation or maintenance of piping prefer WeldELLS—just one example of the limits to which we go to give you a welding fitting that "has everything."

A number of other features are listed opposite—extra-value features that are combined only in WeldELLS.

#### **TAYLOR FORGE & PIPE WORKS**

General Offices & Works: Chicago, P. O. Box 485  
New York Office: 50 Church Street  
Philadelphia Office: Broad Street Station Bldg.

#### **WeldELLS have everything**

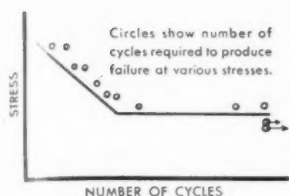
In addition to the features described opposite, WeldELLS have the following advantages which are combined in no other welding fitting:

1. **Seamless**—greater strength and uniformity.
2. **Tangents**—keep weld away from zone of highest stress—simplify lining up.
3. **Precision quarter-marked ends**—simplify layout and help insure accuracy.
4. **Selective reinforcement**—Provides uniform strength.
5. **Permanent and complete identification marking**—saves time and errors in shop and field.
6. **Wall thickness never less than specification minimum**—assures full strength and long life.
7. **Machine tool beveled ends**—provides best welding surface and accurate bevel and land.
8. **The most complete line of Welding Fittings and Forged Steel Flanges in the world**—insures complete and undivided responsibility.

*When writing Taylor Forge & Pipe Works please mention Purchasing*

# ***This is their big BENDING moment—***

## **SPRING NEWS**



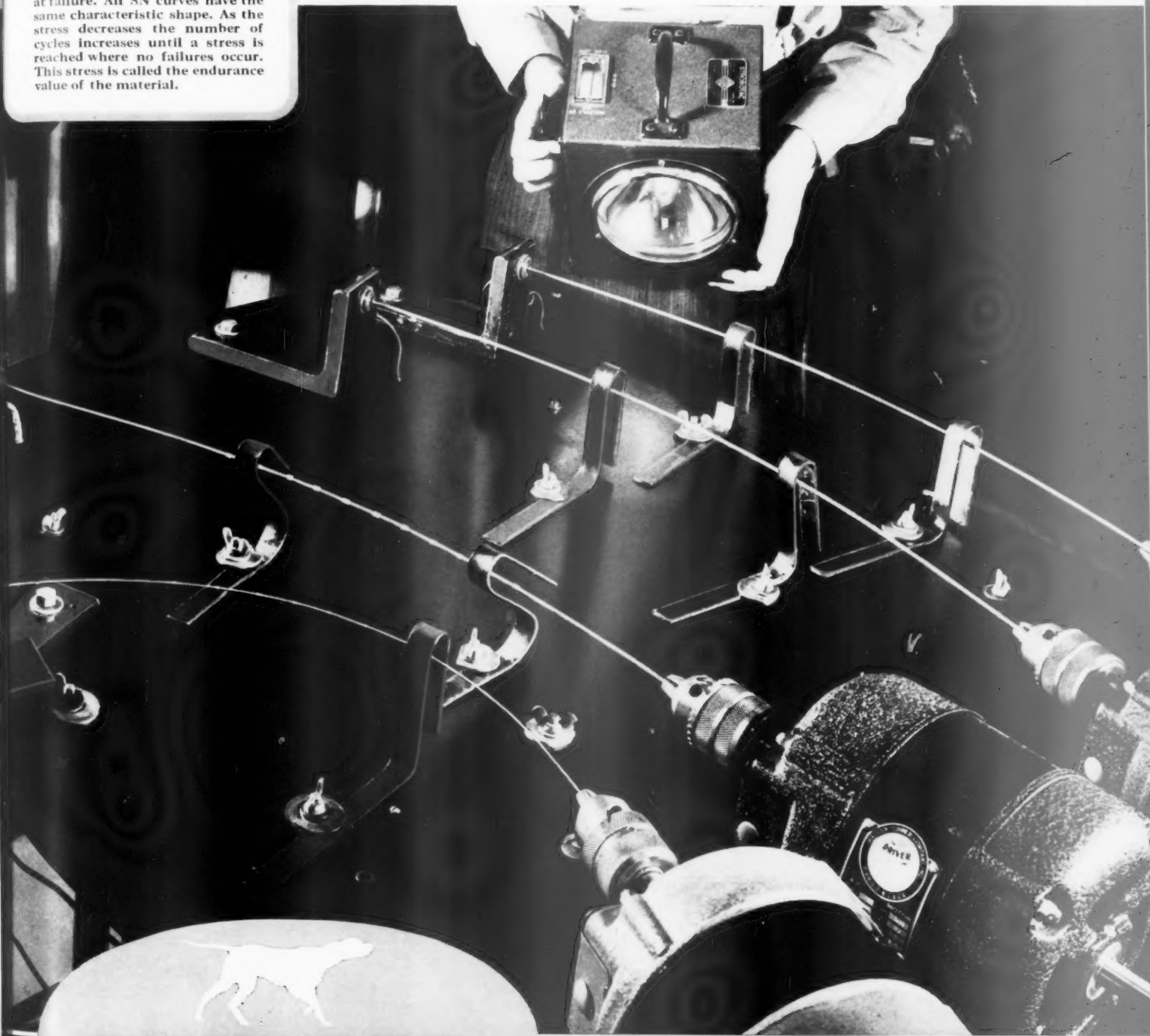
The results of the Rotating Beam Fatigue Test are graphically shown by the SN curve in which the bending stresses are plotted against the number of cycles of stress reversal at failure. All SN curves have the same characteristic shape. As the stress decreases the number of cycles increases until a stress is reached where no failures occur. This stress is called the endurance value of the material.

THEY look like gracefully curved fencing foils—but these four lengths of wire are being subjected to the Rotating Beam Fatigue Test in the Hunter Laboratory. Specimens from a coil of wire are bent at various radii and whirled at a controlled speed for hours . . . even days . . . until they fail . . . or reveal their actual endurance values.

Tests on every conceivable spring material have been made by Hunter, including important studies on the effect of various heat treatments, surface finishes and elec-

troplating. These tests, correlated with fatigue tests on actual springs, provide a wealth of valuable spring design data for use by our engineers.

Along with this research work additional fatigue "heads" are in constant operation, making routine checks on the uniformity of the fatigue resistance of materials received from the various approved sources . . . an unusual but very effective adjunct to the many other tests required for maximum quality control of springs.



**HUNTER**  
*Science in Springs*

HUNTER PRESSED STEEL COMPANY, LANSDALE, PENNA.

## AN ELECTRICAL WHOLESALER HELPS SPEED WAR PRODUCTION



## WESCO delivered all 68 items in 3 Days!

**SAVED AIRFIELD 81 DAYS DELAY;**

**Fastest Complete Delivery From Manufacturers 12 Weeks**

A West Coast airfield and cantonment construction job urgently needed 68 items made by nine different manufacturers. Delivery promises by manufacturers ranged from 1 to 12 weeks which meant losing up to 3 months valuable time. By slashing through red tape, delays and complications, the local WESCO Branch delivered all 68 items in 3 days!

Certainly—this buyer had a priority rating permitting WESCO to make shipment. But here's the point: If this defense order had been placed directly with the nine manufacturers, it would have involved 9 orders, 9 acknowledgments, 14 invoices, 14 shipments, 14 bills of lading, 14 checks to issue.

Compare this with what WESCO provided through services of its local House—1 order, 1 acknowledgment, 3 invoices, 3 shipments, 3 bills of lading, 1 check.

This kind of intelligent service under today's stress is exactly the same as WESCO has rendered its customers for the past 20 years and will continue to give in the future. The only difference is—today it is labeled "For War"; tomorrow "For Business".

# Westinghouse

**ELECTRIC SUPPLY COMPANY**

150 VARICK STREET • NEW YORK, N. Y.

**A NATIONAL DISTRIBUTING ORGANIZATION WITH 79 BRANCHES**


*When writing Westinghouse Electric Supply Company please mention Purchasing*

### WESCO SPEEDS PRODUCTION

- \* An air depot got 50 floodlights from WESCO the same day order was issued, after another source had failed to meet a 15-day delivery promise.
- \* Shipment of 55 miles of conduit for war plant started within 24 hours after WESCO got the order. Best delivery from any other source was 5 weeks to start.

### WESCO SERVES BUSINESS

- \* By warehousing stocks in anticipation of customers' needs.
- \* By furnishing informative and technical data.
- \* By providing trained sales and engineering personnel.

*The name that means  
  
 everything in electricity*



# PURCHASING PREVIEWS

From the Washington office of

## PURCHASING

National Press Building

Washington, D. C.

March 2, 1942

### For Purchasing Executives:

WPB ACCEPTS LEADERSHIP—Washington in February was a more serious, sober and determined city than at any time since we have been actually at war. Not that our leaders have at any time held too complacent a view of the task which lies ahead. But without the emotional lift that accompanied the war declaration in December, or the excitement attending the announcement of the Victory program and the reorganization of the war agencies in February—even more than Pearl Harbor, the military reverses at Singapore and submarine activity in the Atlantic served to drive home the gravity of the situation and the need for immediate and sustained production effort to make this country in fact the arsenal of democracy.

As previously pointed out, the War Production Board differs from its predecessors chiefly in the fact that it has executive authority, and it is today demonstrating that it plans to exercise that authority in pushing the Victory program to the point of prompt realization. Where OPM could function only, or chiefly, as a prolific source of regulations, directed at isolated sore spots in the industrial economy as they appeared, with the result that its work was frequently overlapping or contradictory and largely uncoordinated, WPB emerges with a definite objective and a program for attaining it. Restriction orders are now definitely related to this positive program of essential production.

To date, there has been little of the "crack-down" philosophy at work; it is a program of leadership, calling for the full cooperation of industry in a single purpose: to win the war. But there is no evasion of the issue that this cooperation of all industry must be forthcoming to place the production facilities of the country on the basis of a war economy—voluntarily if possible, as befits a democracy, but forthcoming in any case.

\* \* \* \*

PLANT CONVERSION—The immediate problem is the conversion of manufacturing facilities to the production of war materials or essential civilian needs. Industrial establishments, however remote from war production in their normal activities, will do well to explore the possibilities of such conversion now, and to apply, in their search for government contracts or subcontracts, the same degree of ingenuity and energy through which their normal business has been built up.

WPB is thinking about conversion in terms of Great Britain's experience and methods, which include the concentration of all civilian manufacture in one or two "nucleus plants" in each industry, while the bulk of production equipment and manpower is commandeered and put to work at some phase of the war effort. Great Britain's policy has also been to disperse production by breaking up each major item into relatively small component parts for later assembly, rather than concentrating and expanding the key war industries as we have done. This is directly in line with the campaign for subcontracting which has been so actively promoted from Washington for months past, and which offers the best solution for most plants if they will take advantage of the opportunities now at hand.

Two factors will modify the possibility of setting up a carbon copy of the British plan in this country--the average size of our plants, and the geographical extent of our nation. But in general outline, and perhaps on a zone basis, it is practicable and it may be necessary.

For the industrial Purchasing Agent this presents two problems which he should consider now. In the event of his own plant's conversion, he may be called upon to procure new and unfamiliar materials. In the event of his suppliers' conversion to other lines of manufacture, he will be obliged to find and to deal with new sources of supply.

\* \* \* \*

SUPREME COURT DECISION—Supporting the powers of WPB, the Supreme Court on February 16th issued a timely decision on a case having its roots in a contract made twenty-four years ago, during World War I, with the Bethlehem Shipbuilding Corporation. The Court took this occasion to state flatly that Congress has the constitutional power to draft business establishments for the war effort. Significant paragraphs in this decision state:

"The Constitution grants to Congress power 'to raise and support armies,' 'to provide and maintain a navy,' and to make all laws necessary and proper to carry these powers into execution. Under this authority, Congress can draft men for battle service. Its power to draft business organizations to support the fighting men who risk their lives can be no less...The Government has requisitioned existing production facilities or itself built and operated new ones to provide needed war materials. It may be that one or some or all of these measures should be utilized more comprehensively, or that still other measures must be devised...If it chose to, the Fleet Corporation could have foregone all negotiation over price, compelling Bethlehem to undertake the work at a price set by the President, with the burden of going to court if it considered the compensation unreasonably low."

\* \* \* \*

PRICE CONTROL—Widespread conversion to war production will necessarily curtail civilian supplies to a point far short of purchasing power, and will present a need for price control on a broader front to prevent an inflationary movement affecting all classes of consumer goods. The legal basis of price administration is now defined, but the job itself will continue to grow. Look for greater attention to manufacturing and distributing margins, the total suspension of the law of supply and demand, and immediate emphasis on strict compliance.

—THE EDITORS

# STEEL STRAPPING SAVES SPACE FOR WAR INDUSTRIES



## STEEL BANDED LUMBER DOUBLES STORAGE YARD CAPACITY

In the warehouses and storage yards of many vital industries, space is being effectively conserved by the use of Acme Steelstrap. In the huge yards of a terminal on the Eastern seaboard, bundling of lumber for shipment with Acme Steel Bands is conserving valuable space.

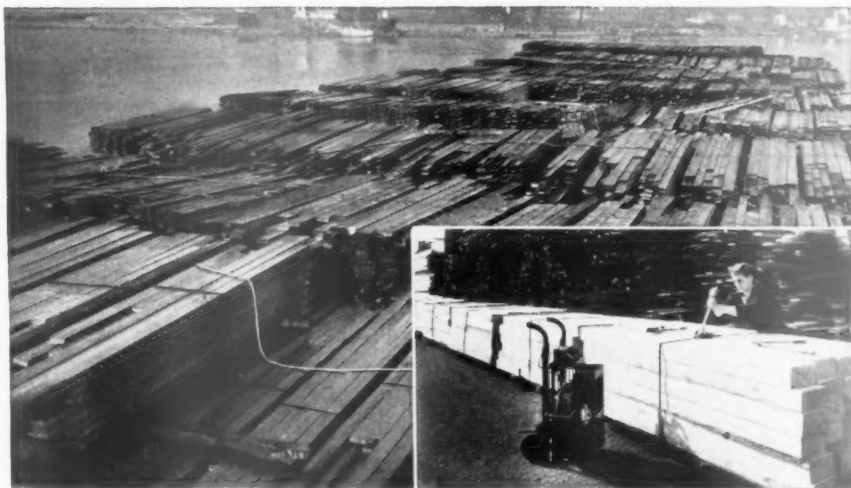
Lumber is now piled twice as high as ever before. Consequently yard capacity has been doubled. Also, the hazard of accidents in this lumber-crammed yard has been eliminated. There is no longer any danger of falling pieces and employees can work with peace of mind.

Before World War II, this large inter-coastal terminal could easily accommodate the lumber which arrived daily—but vast stores of lumber accumulated as the demand kept mounting. Then too, shipping space was at a premium. Acme Steel Bands provided the solution to the overtaxed storage facilities.

In the shipping of your Victory products, your problems may be conservation of space—speedier delivery—or safety in transit. Acme Steelstrap can solve these economically.

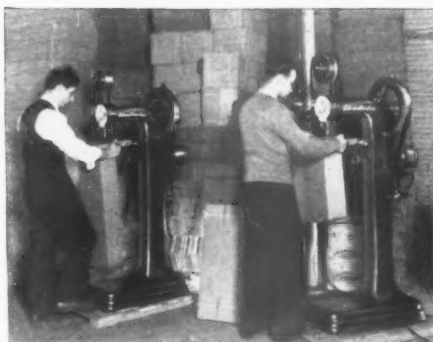
## NEW ACME PUBLICATION HELPFUL TO SHIPPERS

Important information to shippers of V products is carried in the current issue of ACME PROCESS NEWS. This illustrated, news-packed publication shows how manufacturers of all types of products are assuring faster, safer, more economical shipping. A copy can be had by mailing the coupon.

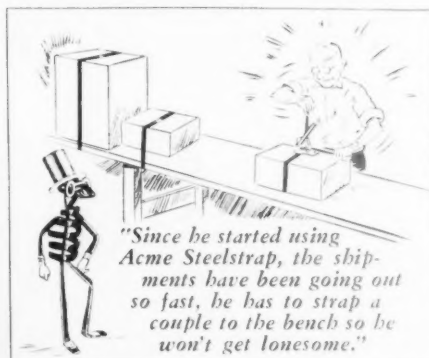


*Acme Steel Bands make possible the greatest concentration of lumber in any one spot in the United States. (Inset) Operator tensions Acme 3/4" Steel Bands to bundle for convenient handling by crane.*

## ACME SILVERSTITCHERS SPEED UP V-SHIPMENTS



Manufacturers in the war industries are obtaining new speed in stitching fibre and corrugated boxes with Acme Silverstitchers. Sealing by stitching is five times faster . . . is twice as strong as other sealing methods. This new type of Acme equipment effects important economies, too. Because less material is used, sealing costs are cut as much as 50%. Acme wire and equipment function as a unit, assuring stitching satisfaction.



## FASTER SHIPMENTS WITH ACME STEELSTRAP

Every shipment is "Bound to Get There" faster with Acme Steelstrap. Used for reinforcing all kinds of shipping packs—cartons, boxes (wooden or fibre), crates, bundles, skids—to assure important savings in labor, material and time. Small packages can be bundled into a single unit—sometimes permitting a more economical express classification. With large units, Acme Steelstrap often makes possible a lighter weight and less costly container.

## ACME STEEL COMPANY

2842 Archer Ave., Chicago, Ill.

MANUFACTURERS OF: STEELSTRAP, UNIT-LOAD BANDS, CORRUGATED FASTENERS, CARTON STITCHING WIRE, SILVERSTITCHERS, STRIP STEEL AND OTHER STEEL PRODUCTS.

☐ Send complete information on fast, safe and economical shipments of Victory products.

☐ Mail me a copy of *Acme Process News*.

Mr. \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

*When writing Acme Steel Company please mention Purchasing*



## HOW GRAYBAR CAN HELP KEEP ALL IN THE CLEAR

### 1. PLANT



General vs. localized lighting . . .  
high-bay lighting . . . lighting  
critical seeing tasks on highly  
reflective surfaces . . . fluorescent  
vs. incandescent  
Problems like these are solved more  
promptly with the aid of GRAYBAR  
Representatives and Lighting Spe-  
cialists. Because GRAYBAR supplies  
units from many leading manufac-  
turers, you get the equipment which  
best fits your job.

### 2. OFFICE



Direct vs. indirect . . . visual needs  
of various office tasks . . . how to  
achieve the right combination of  
appearance, efficiency, moderate  
cost  
In offices now engaged in the paper-  
work necessary to defense produc-  
tion, overtime work at night makes  
good light more essential than ever.  
GRAYBAR can help you pick the  
right fluorescent or incandescent  
unit for your particular needs.

### 3. OUT-OF-DOORS



Protective fence lighting . . . yard  
lighting permitting outdoor work  
at night . . . lighting alleys, sid-  
ings and storage areas . . . "black-  
out" provisions  
Here again, GRAYBAR has the spe-  
cialized experience and wide range  
of supply sources to put you "in the  
clear" (subject, of course, to prior-  
ity rating).

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OF LIGHTING EQUIPMENT  
DISTRIBUTE  
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# PURCHASING

## MARCH, 1942 . . . CONTENTS

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PURCHASING is an independent journal not the official organ of any association. It is the only publication of national scope devoted exclusively to the interests and problems of the purchasing executive in industry and government. Established 1915 as "The Purchasing Agent." Consolidated with "The Executive Purchaser."

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FOR long rope life make certain your sheaves are of hard, wear-resisting metal. Soft sheaves wear rapidly. Once worn (and often corrugated) they both pinch the rope and develop a filing action. *Never put a new rope on a worn, scored or corrugated sheave.* Select the proper sheave material, depending on the rope pressures encountered. Any American Cable engineer will gladly give you the benefit of his long experience.

And sheave diameters are very important too.

*If the sheave is too small, the sharp bend imposed upon the rope induces high bending fatigue and early rope destruction.* To appreciate the importance of using correct diameters note that a 1" rope of 6 x 7 construction requires a 42" sheave while a 1" rope of 6 x 41 construction requires but an 18" sheave.

For average operations here is a table setting forth the proper minimum sheave diameters for ropes of varying constructions:

|   |                           |
|---|---------------------------|
| for 6 x 7 Construction .....              | 42 times diameter of rope |
| for 6 x 19 Seale Construction .....       | 34 times diameter of rope |
| for 6 x 16 Filler Wire Construction ..... | 30 times diameter of rope |
| for Flattened Strand (Type B & G) .....   | 30 times diameter of rope |
| for 8 x 19 Seale Construction .....       | 26 times diameter of rope |
| for 6 x 19 Filler Wire .....              | 26 times diameter of rope |
| for 6 x 22 Filler Wire .....              | 23 times diameter of rope |
| for 8 x 19 Warrington .....               | 21 times diameter of rope |
| for 8 x 19 Filler Wire .....              | 21 times diameter of rope |
| for 6 x 37 Seale .....                    | 18 times diameter of rope |
| for 6 x 41 .....                          | 18 times diameter of rope |

Paying attention to your sheaves pays dividends in longer rope wear, less trouble and steadier production. Specifying **TRU-LAY PREFORMED** pays dividends in the same way. Consult your nearest American Cable wire rope engineer. All American Cable ropes made of Improved Plow Steel are identified by the Emerald Strand.

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**ESSENTIAL PRODUCTS . . .** AMERICAN CABLE Wire Rope, TRU-STOP Emergency Brakes, TRU-LAY Control Cables, AMERICAN Chain, WEED Tire Chains, ACCO Malleable Iron Castings, CAMPBELL Cutting Machines, FORD Hoists and Trolleys, HAZARD Wire Rope, Yacht Rigging, Aircraft Control Cables, MANLEY Auto Service Equipment, OWEN Springs, PAGE Fence, Shaped Wire, Welding Wire, READING-PRATT & CADY Valves, READING Electric Steel Castings, WRIGHT Hoists, Cranes, Presses . . . *In Business for Your Safety*

*When writing American Chain & Cable Company, Inc. please mention Purchasing*



# TEN SILVER MONTHS

**W**E are all in the war. The battalions of industry, no less than the armed battalions at the front, have a part in the grand strategy of the forces of democracy. That part was broadly outlined in President Roosevelt's announcement of the Victory production program in January. It is being translated into specific terms by Donald Nelson and the War Production Board.

Time is the essence of the Victory program. Every ton of steel, every tank, every plane, every shell produced today is worth incalculably more to the war effort than the identical product produced six months or a year from now. The accomplishments and the failures of the past are forgotten. There is a job to be done in 1942—in March, 1942.

Mr. Nelson reminds us that the golden months when we might have been preparing more earnestly to meet this emergency have been torn from the calendar, but that ten silver months remain during which American industry can write its answer to the challenge. In that statement he expresses the constructive, forward-looking view. Time is short, but there is still time if we resolve to make it count.

Every resource and every effort of management and production must be directed to our one objective. This does not mean hysteria, but cool thinking and hard work. It means that every policy, every act, every schedule, must be judged by just one standard: "Will it help to win the war?"

Each plant and each organization knows best what and how it can most effectively contribute to the national effort. Many of them have already enlisted for the duration, but we have not nearly reached our over-all potential capacity. Complacency and delay are our most insidious enemies. Today is the time when we must face the situation squarely and accept our share of the responsibility. The shops and factories of this country have the tools for Victory. Put them to work NOW!

*Stuart F. Neimark*

# Here's Your PRODUCTION AID

The RYERSON  
1942 STOCK LIST



## 1942-43 RYERSON STEELS



Ryerson again assembles complete and helpful listings of more than 10,000 steel sizes and shapes...puts comprehensive information at your fingertips...helps you order steel. This new 1942 Ryerson Stock List is engineered for convenience—quick-new tab-indexed, handy pocket size, crammed full of facts that will make it a steel buyer's "book of knowledge."

Even though many kinds of steel cannot always be delivered promptly, because of war demands, you can depend on Ryerson to help you; to work with you on your steel problems; to give you the best service possible in keeping with government regulations.

Make this 100th Anniversary Ryerson Stock List your guide—use it. If you have not received your copy, write your nearest Ryerson plant. Joseph T. Ryerson & Son, Inc., Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Philadelphia, Boston, Jersey City.

**RYERSON** *Certified* **STEELS**



# PRODUCE NOW .....OR NEVER!



## A STATEMENT BY THE PUBLISHERS

The United States will lose the war, unless American industry from top executive to shipping clerk is willing to adopt the spirit and fight that is being shown by General MacArthur and his men in the Philippines.

**This is a strong statement** but it has been made only after careful deliberation and consultation with the men who are following our war production schedules. They are intimately familiar not only with what we need but what we must have within the next few months if we are to avoid actual defeat or a long drawn out stalemate—either of which is intolerable.

From Donald Nelson, production chief of the U. S. comes this message to industry—"Every weapon we make today is worth ten that we might produce next year. This year—1942—is the critical year in the existence of the United States. I'm not just painting the picture darkly but I do believe that we who know what industry can do must look at the situation squarely."

**Those words are blunt** and to the point. They come from a man who knows what is needed and not from an arm chair strategist. Nelson is an American businessman devoted to our way of life and to its preservation. All industry must heed before it is too late.

**The decision of victory or defeat** lies in the results produced by our factories. Our military men do not lack in courage or the will to fight. That has already been demonstrated at Wake, at Guam and in the Philippines. But they don't stand a chance of victory without guns, tanks, and airplanes which are now so short that they can't even defend themselves. This lack of vital weapons from industry is now being written into the casualty lists. After many of their names might well appear the words—needless slaughter.

**We don't wish** to be melodramatic. Nor should we allow ourselves to become hysterical. But every man in industry must immediately realize that it is within his power to save lives and to win this war by giving every ounce of his energy and ingenuity toward increasing arms production. Our industrial structure is so complex that everyone engaged in it can contribute something that will hasten and increase output. By the same token his lack of co-operation will impede it.



**Industry must shelve** its post war planning wherever it is interfering with war output, for if we lose, these plans will be less than useless. Labor leaders must stop irresponsible interruptions of war output and devote their energies wholly to increasing and not decreasing production.

**Those plants** that are now producing war goods must bend every effort toward speeding-up production rates and lick every existing schedule regardless of apparent obstacles. Multi-shift operation, improved production methods, must be adopted by all. More and more work given out in sub-contracts—putting idle machinery to work, regardless of cost, will add greatly to speed and volume. In England today a total of 6000 plants are engaged in tank production. Yet no single plant is making a complete unit.

**Plants without arms** contracts must get them. While it is true that the War Production Board is set up for the purpose of assisting contract distribution and is composed of as able and experienced industrialists as we have in this country, it is physically impossible for them to seek out and place contracts and sub-contracts with all of the many thousands of American manufacturers with idle machines in time to save our fighting men and to place them in a position to win this war. These men in the War Production Board are working day and night to the point of exhaustion but time is so short that you can't wait for them to come to you—you personally must go out and get the war business for your own plant and start the idle machines working.

**Manufacturers** with machines of potential defense value are simply faced with a sales problem similar to many which they have had to solve in the past in order to stay in business. The Government is now the potential customer, and the volume available is unlimited, whether it is direct business from the war procurement divisions or in the form of sub-contracts from existing producers.

**Already hundreds** of firms have secured contracts and converted their production to products that would have seemed fantastic for them to be making but a few years ago. A manufacturer of ladies' hand bags is now turning out chargers for rapid fire guns. This company found that original manufacturing specifications called for the use of milling machines, grinders, and drilling machines. They had none of these tools and couldn't get them. So they developed a new manufacturing process that now produces a better product in greater volumes without them. A manufacturer of heat control is making periscopes. A cork products manufacturer is turning out airplane wing tips—a pump manufacturer is making special cams—a stoker manufacturer gears—a stove maker fabricates fuel tanks—a vending machine manufacturer is producing electric gun turrets, and a manufacturer of silk hosiery is making aircraft wing fittings. Hundreds of similar examples are available and many more are being born daily.

**Obviously**, this is not a simple problem. For the majority of manufacturers it is full of disappointments, heartaches, and a seemingly endless battle against red tape. A few will ultimately find that their facilities are such that they cannot be converted. But it was not easy to build a manufacturing business, nor has it been easy to remain in business during the past few years. This challenge will and must be met by industry regardless of obstacles. The same ingenuity and resourcefulness that made this country great must outproduce our enemies and beat them at their own game.

**Every idle machine** in every plant in this country must answer this challenge now! Plants must convert and produce as never before. The lives of our men and the future of the nation are in the hands of the men in American Industry!

*The Publishers*

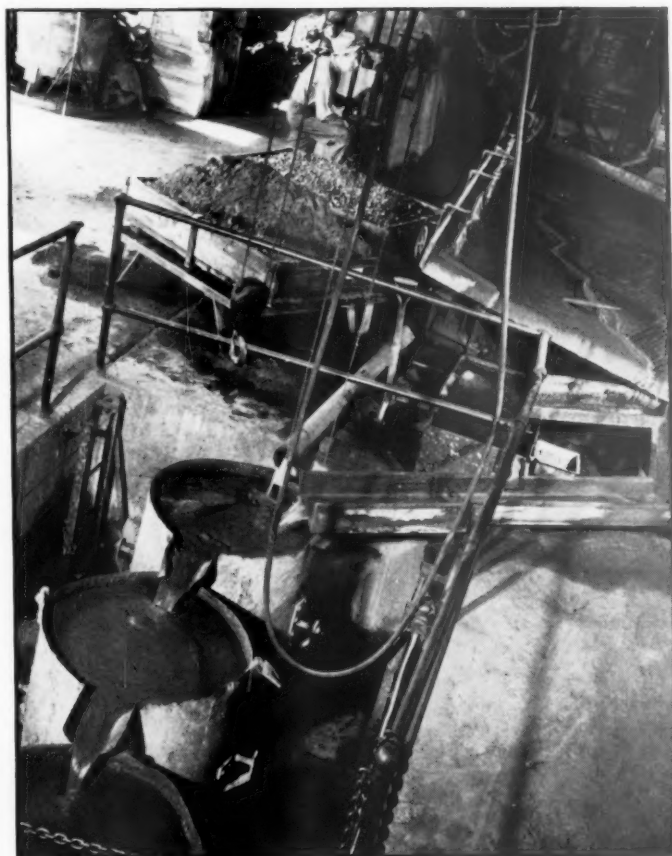
## RECOVERY OF SOLVENTS

**R**ECOVERY of solvents and reagents for re-use is standard practice in the chemical and processing industries. What is believed to be the largest unit of this nature in the Akron area is that at the recently opened spreading plant of the B. F. Goodrich Company, used in the manufacture of Koroseal, the synthetic elastic made from plasticized polyvinyl chloride.

The photograph at the left shows the three towers comprising the unit. The largest, at the right, is 10 feet in diameter, 78 feet high, and weighs 130,000 pounds. All the towers were received on the site completely assembled, and were erected in one piece.



# THE "HOW" OF CONSERVATION



Methods used by some representative companies to save scarce materials and to insure maximum utilization

## SALVAGE FROM SWEEPINGS

**A**PPROXIMATELY twenty tons of non-ferrous ingot are reclaimed daily from scrap in the works of the Westinghouse Electric & Manufacturing Company. A considerable proportion of this comes from machine shop sweepings, which would be utterly lost without special attention to this phase of salvage.

At the Linchart Works, these sweepings, in the form of a heavy sludge, are passed through a series of water separators. The bits of metal settle to the bottom of the trays and buckets, while the dirt, grease, and other impurities carried in solution or suspension, overflow into the next bucket and are eventually carried away.

## AN OIL COMPANY'S METHODS

**I**N a western oil company which operates its own wells and refineries and distributes its products through retail filling stations, salvage operations are carried on through a Salvage Superintendent, reporting directly to the Manager of Purchases.

As soon as equipment, machinery or tubing goes out of use, it is reported to the Salvage Superintendent, who decides whether it is to be reclaimed or sold. In this way, material which has no further usefulness to the company is promptly disposed of, while material that can be economically reclaimed is reconditioned and made available at the warehouses for use wherever needed. The Manager of Purchases is kept informed of all such supplies on hand, and consults this list before buying new materials.

Some items lend themselves especially well to such reclamation. Valves are rarely discarded, but are repaired for further use. Pumps and motors can likewise be reconditioned, and a fair proportion of requisitions are filled by transfer of used equipment. Some types of materials which are no longer suitable for their original purposes can be placed satisfactorily into other service, giving values far in excess of mere scrap disposal. An example of this is drill pipe, which can be used for water lines after its original

usefulness has been exhausted. Literally miles of water lines in this system have been laid with discarded drill pipe and are giving excellent service. The Salvage Superintendent is also responsible for the care and repair of technical instruments.

Issuing reclaimed or rebuilt equipment frequently calls for the exercise of diplomacy. The station operator who expects to receive a brand new pump may be disappointed when he gets second-hand, though serviceable, equipment. As an effective policy for this situation, the new installation is charged at only 50% to 75% of the cost of a new pump, and the operator's balance sheet is proportionately more favorable.

### DISPOSING OF CONFIDENTIAL RECORDS →

### REQUISITIONING CRITICAL MATERIALS →



#### DEPARTMENT OF PURCHASE CITY OF NEW YORK MUNICIPAL BUILDING

February 12, 1942

Mr. Stuart F. Heinritz, Editor  
"Purchasing"  
205 East 42 Street  
New York City

Dear Sir:

I was quite interested in Part II of the February issue of "Purchasing."

Under Item 85 you suggest the destruction of confidential records by burning. This was the practice followed by the City of New York up until a few weeks ago. We found it possible to make arrangements for the destruction of our confidential records by the so-called "wet beater" process. Under this plan, the records are delivered to a producer of pulp within a fifty-mile radius of New York City and are destroyed in the beaters in the presence of City representatives. Incidentally, we get a better price for these confidential records than we get for ordinary scrap paper since they are generally on a good grade of stock.

Under Item 42 you suggest the issuance of critical materials upon special authorization. On January 17, 1942, Mayor LaGuardia issued an executive order placing more than one thousand items carried in our storehouses on a critical list and prescribing the following certificate on requisitions for such items:

#### "Certificate - Request for Critical Material

I hereby certify that the item(s) above requisitioned is (are) absolutely necessary for the maintenance of essential services. These quantities, if furnished, will be used immediately, and will not be placed in reserve. To the best of my knowledge, there is no other material that can be used for the purpose.

Signed.....

Title .....

We find that this plan has made the various agencies quite aware of current shortages.

Very truly yours,

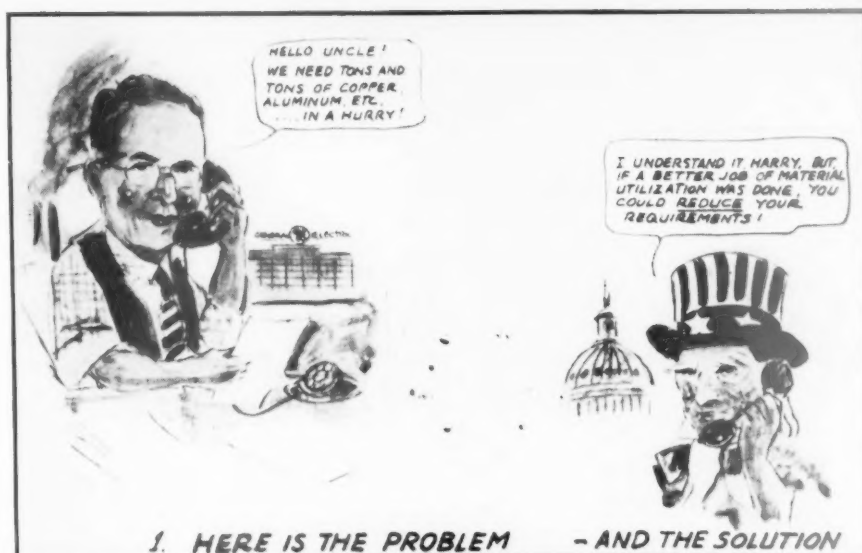
*Albert Pleydell*  
Albert Pleydell  
Commissioner

AP:CK

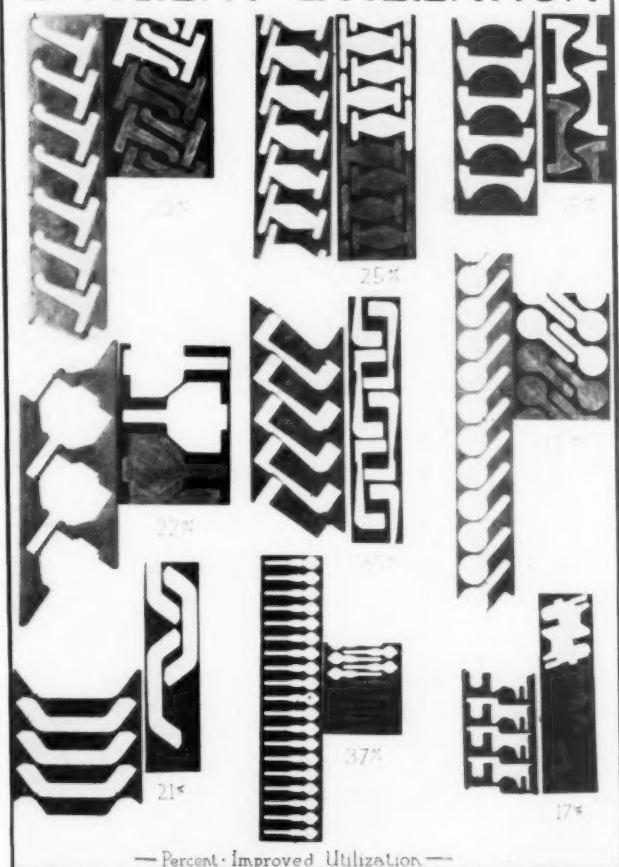


## DRAMATIZING CONSERVATION

**A**T a recent meeting of the Manufacturing Committee of the General Electric Company, the problem of material shortages and the possibilities of conservation through better utilization were dramatically portrayed in a series of pictorial displays. It starts when the employee finds that the well (the supposedly inexhaustible supply of raw materials) is running dry. In the next poster, Harry Erlicher, Vice President in charge of Purchases, puts the problem up to Uncle Sam and is told that better utilization will reduce requirements.



## CONSERVE MATERIAL EFFICIENT UTILIZATION



In succeeding drawings, division managers and the board of directors pledge to do their part in the program of "More goods for National Defense—from less raw material."

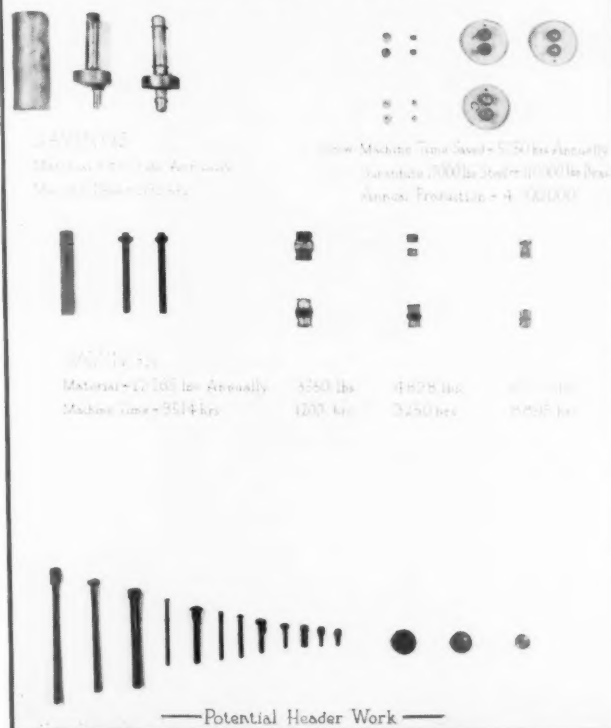
Real meat of the display, however, was a series of charts showing how this objective could be attained. For example, by varying the width of strip metal and rearranging layout of parts, utilization could be improved by from 17% to 37% in some cases. Similarly on other operations, impressive conservation of material and of machine time was recorded. Actual case studies from the company's own experience, supported

by the factual record of savings, brought the lesson home in practical and personal terms.

The display was viewed by scores of production and shop executives, buyers, and department heads, who have carried the moral into their daily work with telling effect.

Many companies will find that their plant practices, well conceived at the start, will profit by such a periodic review and analysis. Just as important as the analysis itself is the job of presenting it in convincing and memorable form to those who have the responsibility for putting improved practices to work. This well-planned display series illustrates one very effective way of accomplishing the desired result.

## CONSERVE MATERIAL and MACHINE TIME

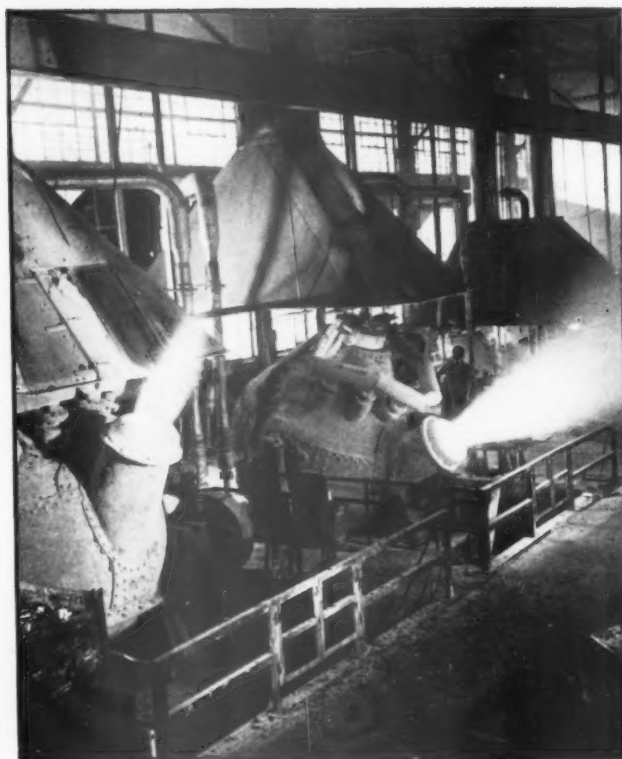


## RECOVERY OF METAL SCRAP

**M**ORE than a million pounds of non-ferrous metals, including enough aluminum to build 10 army bombers, are reclaimed every thirty days from machine shop leftovers, according to W. J. Laird, head of the Westinghouse Reclamation Division at the Linehart Works. This economy program conserves materials needed in the national war program, saves money for the company, and helps maintain increased production. The reclaimed metals include aluminum, copper, aluminum base alloys, and copper base alloys.

After pure aluminum and copper are removed from the metallic mixture, the remainder is divided into approximately 50 alloy categories. Placed in a revolving bucket, each batch is thoroughly mixed and tested to determine exactly what metals it contains and how much of each is present. To get the right percentage of the metals that form a specific alloy, various amounts of pure metals are added and mixed with the reclaimed metals.

Gas furnaces resembling huge teapots are the melting pots that blend the metals together. They are fired at regulated temperatures ranging between 1800 and 2300 degrees F., and poured into molds to form 100-pound ingots. Tested again to establish the metal content of the alloy, the ingots are given identification numbers and are then ready for use in making various types of castings or for other production uses.



## CONSERVATION AS A SELLER'S THEME

**H**ENRY DISSTON & SONS, INC., of Philadelphia is offering to Industrial America an effective Conservation Control Plan, of wide scope, designed to save vital materials and to speed up production in this time of great national emergency. Recognizing in this plan a very definite aid to the Government's "War on Waste," the OPM says, *"It reflects precisely what we would have every industrial plant in the Country undertake."*

Based upon instruction cards called "Conservation Control Cards," the individual worker is told how to handle a particular tool, how to use it efficiently, how to keep it from breaking, how to sharpen it, and other important information which will mean easier and better work for him. There are 35 of these cards, covering cutting tools for metal, wood, plastics, etc., including tool bits, files, hack saw blades, carboloy knives and cutters, circular metal and wood cutting saws, band saws for wood or metal, planer knives, etc.

In these times of inexperienced labor and a lack of foremen, making supervision difficult, these Control Cards meet a very definite need. They are supplied free by Disston to any plant, along with buttons bearing a seal and the slogan "Conservation Serves Everyone." In addition, there are posters prepared for the use of plants generally which "sell" the idea to the men as a means whereby their work will be made easier and better. Emphasis is put upon the importance of saving materials in order to make more materials available during this time of emergency and shortages.

The Control Cards will be supplied to all industries desiring them. Each card for each specific cutting tool carries a number. All that is necessary is for a plant executive to notify Disston how many cards are wanted of each number. When the cards are received by the plant, they are distributed through the shop superintendents and foremen to the men using the

respective cutting tools—one card for each workman. Thus, individualized instruction is provided to the workmen.

Each Control Card contains the following data for each specific cutting tool:

1. Typical troubles and failure to perform work properly.
2. Cause of trouble.
3. Correction.
4. Recommendations for various materials to be cut.
  - (a) How to select proper tool.
  - (b) How to set it up.
  - (c) Proper speed and feed.
  - (d) Miscellaneous recommendations.

Many industrial leaders already have signified their enthusiasm for the plan. Disston is prepared to supply cards, posters, buttons, etc., entirely without cost. Nor is it necessary to be a Disston product user in order to participate in this important national program. A certificate of cooperation is furnished to each firm where the Conservation Control Plan is put into effect, and the company's name is recorded with the Bureau of Industrial Conservation in Washington. This certificate, prominently displayed in the plant, together with the individual workers' buttons, have been found exceedingly effective in making workers "conservation-conscious" and in building morale.

Better utilization, longer tool life, elimination of breakdowns and delays, as achieved by this plan, are definitely related to the present need for more and faster production in the Victory program which has set unprecedented quotas of output for American industry. These same factors have permanent values as well. Far-sighted salesmanship recognizes that leadership in meeting present problems also constitutes a permanent asset.

### JAMES MacPHERSON

Twenty years of purchasing experience with the Standard Oil Company of California and affiliated companies, are placed at the service of the Government in Mr. MacPherson's latest appointment. He was Manager of Purchases and Stores for six years prior to 1940, when he became Secretary of the California Arabian Standard Oil Company, from which position he is now on leave. Mr. MacPherson has been an active member of the Los Angeles Association and the N.A.P.A. He served with the British Army during World War No. 1. He was in charge of the Equipment and Supplies Branch of OPM's Division of Purchases from June, 1941, to February, 1942, when he was named Deputy Director of the Division of Purchases, WPB, assigned to the Procurement Division of the Treasury Department.



By A. N. WECKSLER

## GOVERNMENT BUYING GEARED TO EMERGENCY

**Governmental purchasing procedure is being revised and  
speeded up to meet new conditions and new responsibilities**

**L**ONG-STANDING practices of Government purchasing have been discarded under the stress of the war emergency. Need for the change is that the entire gamut of restrictions—priorities, difficulties in obtaining deliveries, material scarcity, labor shortage—impinge on Government procurement in much the same manner as they do on private industry. One of the branches which has been particularly affected by these developments is the Procurement Division of the Treasury Department. This Division is the centralized purchasing agency for the majority of governmental departments, as well as having the responsibility of handling Lend-Lease purchases—a major buying assignment in itself.

The approach of the Procurement Division of the Treasury to this problem is to make such concessions as are necessary to meet the emergency, but at the same time to adhere to the best practices and techniques possible under the strain of a mushrooming program.

Cornerstone of the new war-time policy of this agency is a changeover from the advertised bid practice of peace-time to widespread use of negotiated contracts to make emergency purchases. While the change

generally disregards some of the fundamental tenets of scientific procurement, at the same time it calls for a greater degree of skill and knowledge of markets on the part of the purchasing officer.

One of the major problems has been to maintain liaison between the Procurement Division and the War Production Board to get quick clearance on priorities for essential orders, and to obtain the release of scarce materials required for the fulfillment of such orders.

To facilitate the emergency operation of the Procurement Division, Douglas C. MacEachie, Director of the WPB Division of Purchases, assigned James MacPherson, an experienced industrial purchasing executive, as his deputy director to work with Clifton Mack, director of the Procurement Division of the Treasury. Mr. MacPherson, who previously had been in charge of the Equipment and Supplies Procurement Advisory Branch of the Division of Purchases under the OPM, will assist Mr. Mack in handling Lend-Lease purchases, and in coordinating the non-military purchases of Government agencies.

Objectives in teaming up a WPB Deputy Purchasing Director with the Procurement Division of the Treas-





### Staff Meeting of the Procurement Staff

Regular staff meetings are held on policy and progress. Shown in this photograph (l. to r.) are: Robert Widman, Chief of Priorities Unit; T. C. Stephens, Special Assistant to the Director, in charge of spreading business; Thomas Manning, Jr., Chief Counsel; Richard F. Going, Special Assistant to the Director; A. J. Walsh, Assistant to the Director in charge of Lend-Lease purchasing; Clifton E. Mack, Director of Procurement; Robert Lefevre, Assistant Director; George Landick, Administrative Assistant; W. E. Leigh, Special Assistant in charge of Expediting; C. C. Heltman, Jr., Chief, Lend-Lease Inspection Service.



### A. J. WALSH

Assistant to the Director of Procurement, in charge of Lend-Lease buying.

ury, according to Mr. MacPherson, are simplification of specifications, spreading of business, and an elastic purchasing policy. The WPB representative pointed out that the Procurement Division had been doing a fine job, and that his function will be largely liaison with, and policy through, the WPB.

### Negotiation Instead of Bid

The basic change in methods followed by the Procurement Division under the war emergency is made possible by President Roosevelt's Executive Order of December 27, 1941, issued on the heels of the outbreak of war in the Pacific, which permitted the armed services and the Maritime Commission to negotiate contracts.

to enter into contracts and into amendment or modifications of contracts heretofore or hereafter made, and to make advance, progress, and other payments thereon, without regard to the provisions of law relating to the making, performance, amendment, or modification of contracts."

The full scope of this order becomes apparent under the clause of the order which follows:

"The contracts hereby authorized to be made include agreements of all kinds (whether in the form of letters of intent, purchase orders, or otherwise) for all types and kinds of things and services necessary, appropriate or convenient for the prosecution of war, or for the invention, development, or production of, or research concerning any such things, including but not limited to, aircraft, buildings, vessels, arms, armament, equipment, or supplies of any kind, or any portion thereof, including plans, spare parts and equipment therefor, materials, supplies, facilities, utilities, machinery, machine tools, and any other equipment, without any restriction of any kind, either as to type, character, location or form."

In a further Executive Order, President Roosevelt extended the terms of the original action to the Treasury Department (making it applicable to the Procurement Division), the Department of Agriculture, the Panama Canal, the Federal Works Agency, the Government Printing Office and the National Advisory Committee for Aeronautics.

Armed with this authorization, Mr. Mack has channeled approximately 90% of all war purchasing by his organization on a negotiated bid system.

In an exclusive statement to PURCHASING, Mr. Mack indicated the objectives of war-time purchasing as follows:

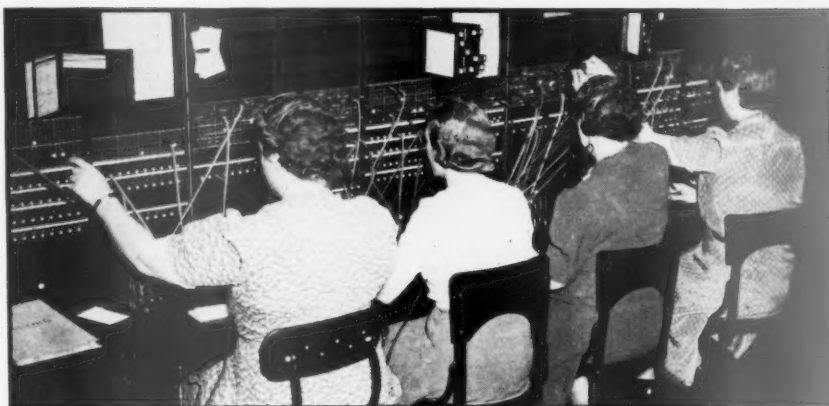
"Direct negotiation to expedite purchasing is being used rather than the formal routine purchase procedures during normal periods. Emphasis is being

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| <p>FEDERAL STANDARD SPECIFICATION<br/>SECTION 14<br/>(PART 1)<br/>EMERGENCY ALTERNATE SPECIFICATION<br/>TO FEDERAL SPECIFICATION<br/>FOR<br/>LUMPS, ELECTRIC, HEAT-RESISTANT, LAMP, PARABOLICALLY<br/>SHAPED</p> <p>IN THE INTEREST OF CONSERVATION OF SCARCER MATERIALS, THE FOLLOWING SPECIFICATION IS HEREBY ADOPTED AS AN ALTERNATE SPECIFICATION TO THE ABOVE SPECIFICATION, AND SHALL BE USED INSTEAD OF THE ABOVE SPECIFICATION IN THE PURCHASE OF THE MATERIALS SPECIFIED HEREIN.</p> <p>SECTION 14<br/>(PART 1)<br/>EMERGENCY ALTERNATE SPECIFICATION<br/>TO FEDERAL SPECIFICATION<br/>FOR<br/>LUMPS, ELECTRIC, HEAT-RESISTANT, LAMP, PARABOLICALLY<br/>SHAPED</p> | <p>FEDERAL STANDARD SPECIFICATION<br/>SECTION 14<br/>(PART 1)<br/>EMERGENCY ALTERNATE SPECIFICATION<br/>TO FEDERAL SPECIFICATION<br/>FOR<br/>LUMPS, ELECTRIC, HEAT-RESISTANT, LAMP, PARABOLICALLY<br/>SHAPED</p> <p>IN THE INTEREST OF CONSERVATION OF SCARCER MATERIALS, THE FOLLOWING SPECIFICATION IS HEREBY ADOPTED AS AN ALTERNATE SPECIFICATION TO THE ABOVE SPECIFICATION, AND SHALL BE USED INSTEAD OF THE ABOVE SPECIFICATION IN THE PURCHASE OF THE MATERIALS SPECIFIED HEREIN.</p> <p>SECTION 14<br/>(PART 1)<br/>EMERGENCY ALTERNATE SPECIFICATION<br/>TO FEDERAL SPECIFICATION<br/>FOR<br/>LUMPS, ELECTRIC, HEAT-RESISTANT, LAMP, PARABOLICALLY<br/>SHAPED</p> |
| <p>FEDERAL STANDARD SPECIFICATION<br/>SECTION 14<br/>(PART 1)<br/>EMERGENCY ALTERNATE SPECIFICATION<br/>TO FEDERAL SPECIFICATION<br/>FOR<br/>LUMPS, ELECTRIC, HEAT-RESISTANT, LAMP, PARABOLICALLY<br/>SHAPED</p> <p>IN THE INTEREST OF CONSERVATION OF SCARCER MATERIALS, THE FOLLOWING SPECIFICATION IS HEREBY ADOPTED AS AN ALTERNATE SPECIFICATION TO THE ABOVE SPECIFICATION, AND SHALL BE USED INSTEAD OF THE ABOVE SPECIFICATION IN THE PURCHASE OF THE MATERIALS SPECIFIED HEREIN.</p> <p>SECTION 14<br/>(PART 1)<br/>EMERGENCY ALTERNATE SPECIFICATION<br/>TO FEDERAL SPECIFICATION<br/>FOR<br/>LUMPS, ELECTRIC, HEAT-RESISTANT, LAMP, PARABOLICALLY<br/>SHAPED</p> | <p>FEDERAL STANDARD SPECIFICATION<br/>SECTION 14<br/>(PART 1)<br/>EMERGENCY ALTERNATE SPECIFICATION<br/>TO FEDERAL SPECIFICATION<br/>FOR<br/>LUMPS, ELECTRIC, HEAT-RESISTANT, LAMP, PARABOLICALLY<br/>SHAPED</p> <p>IN THE INTEREST OF CONSERVATION OF SCARCER MATERIALS, THE FOLLOWING SPECIFICATION IS HEREBY ADOPTED AS AN ALTERNATE SPECIFICATION TO THE ABOVE SPECIFICATION, AND SHALL BE USED INSTEAD OF THE ABOVE SPECIFICATION IN THE PURCHASE OF THE MATERIALS SPECIFIED HEREIN.</p> <p>SECTION 14<br/>(PART 1)<br/>EMERGENCY ALTERNATE SPECIFICATION<br/>TO FEDERAL SPECIFICATION<br/>FOR<br/>LUMPS, ELECTRIC, HEAT-RESISTANT, LAMP, PARABOLICALLY<br/>SHAPED</p> |

Cooperating whole-heartedly in the conservation of scarce materials alternate specifications have been prepared for the emergency, permitting the use of substitute materials on many items.



C. C. Heltman, Jr., Chief of the Inspection Section, discusses with a contractor some of the specifications which the latter's products must meet under Lend-Lease requirements.



Wartime business activities place a heavy load on communication systems. More than 3,000 calls per day are handled over this switchboard in the Procurement Division.

placed upon getting what it wanted for the defense program and getting it fast. Today the making of a purchase contract is but one of the first steps in procurement of supplies for the prosecution of the war effort.

"From that point on, our representatives keep in close touch with the supplier to assist in priority or shipping difficulties, with the objective of getting the supplies according to schedule and making certain that goods are moved to shipside or point of use immediately.

"Although our purchases call for substantial quantities of materials, most of which are critical and call for expeditious action, nevertheless conservation is a primary consideration with the thought in mind of utilizing this country's resources to the fullest extent possible."

#### Broadening Supply Sources

In speeding up procurement, there are two factors which must be taken into consideration. Quantity delivery can best be obtained from large production. At the same time, it is necessary to spread the business as much as possible to permit smaller manufacturers to participate in the Government's purchasing requirements.

Through publicity and information, new bidders have been attracted, with the War Production Board's defense contract organization channeling a number of prospective bidders to the Procurement Division. Difficulty has been that manufacturers generally indicate what type of operations they are engaged in, while the Procurement Division operates from a commodity list and requires specific information as to what the individual concern can make.

There has recently been a large increase in the number of manufacturers seeking Government business. They have been diverted from their normal outlets due to curtailment orders and priority difficulties in obtaining materials, and must find some Government, Army, Navy or Lend-Lease purchaser to receive priorities to obtain materials.

While there are obviously limitations to spreading business when speedy delivery is a prime objective, the Procurement Division has adopted several expedients to draw additional manufacturing units into their purchasing program.

One of these expedients is the change in practice from the formal purchase system. It has been the practice, for example, to make dual awards in parallel items to eliminate the cost of placing extra orders, to



Inspection has not been relaxed under today's buying pressure. This analytical laboratory in the Procurement Division is kept busy on acceptance tests for a wide variety of purchased materials.



Lend-Lease purchases of large quantities of industrial and agricultural machinery are handled by the Procurement Division.



Defense housing projects present another large-scale buying problem, as typified in the purchase of plumbing and heating supplies for this development.

synchronize time of delivery, and to be able to look to only one supplier for the consummation of a contract. Requirements for tires and tubes were, during normal periods, insofar as possible placed with one supplier.

Under the revised policy, separate awards are being made on tires and tubes in the interest of spreading the business among as many suppliers as possible.

Currently, this procedure is being followed in spot purchasing, but it is likely that a similar practice will be adopted when new term contracts are entered into for future delivery of various commodities required by the Government.

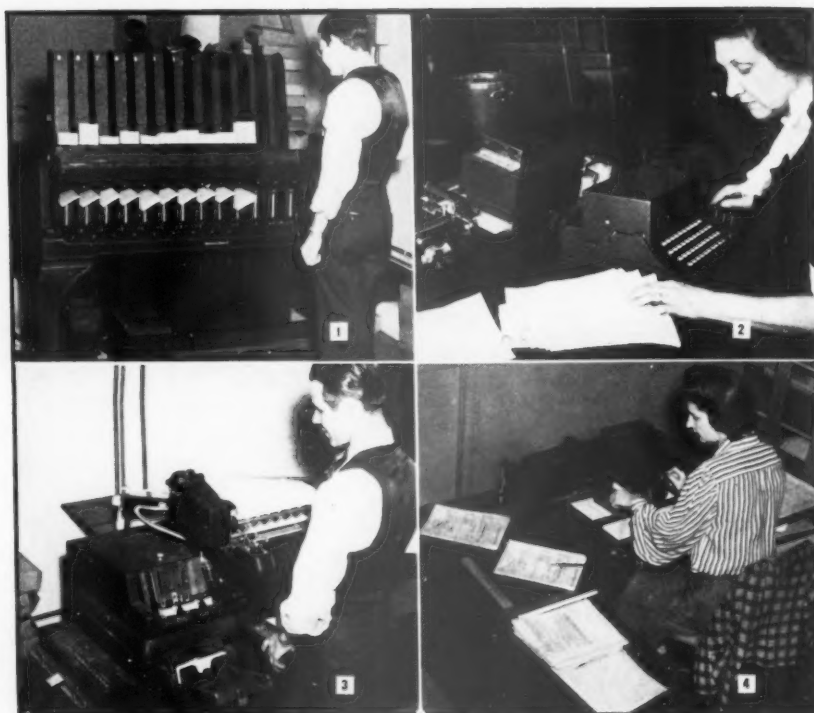
Another change in method is in the system of zone purchasing, under which the nation is divided into a number of zones, depending upon the commodity to be purchased, to permit manufacturers within a particular zone to bid on the basis of deliveries both within that zone and any other zone in which the manufacturer is able to compete.

During the pre-war period, the purpose of the zone-bidding system was to take advantage of any possible preferential price that might accrue to the Government through obtaining bids from manufacturers able to submit a better price on deliveries close to their plant operations.

The war-time policy still retains the zone basis, though on a different footing. Bids are solicited from within a zone, but the objective is no longer to obtain the lowest competitive price. It is recognized that to obtain required quantities, marginal producers will have to be brought into the Government procurement picture, and in the interest of spreading business, a price differential is allowed to manufacturers within a zone who cannot produce at the same price as the more efficient manufacturers.

As many as sixteen manufacturers have been brought into the supply picture where formerly only one would be the source of supply. Different prices are paid by the Government for the same items in recognition that costs of production of various plants differ.

These contracts for commodities and materials are generally negotiated on an informal basis. When need for a definite quantity of materials is established through a requisition order, procurement officers determine the tentative quantities which can be assigned to



The need for speed and accuracy in handling records and "paper work" requires the extensive use of mechanical office equipment. Shown here are (1) the sorting of verified tabulating cards at a rate of 400 per minute; (2) alphabetic duplicating key punch machine for source data, 1,500 cards per day; (3) accounting machine which prints actual reports involving addition, subtraction, net balance, and three types of totals, at a rate of 80 cards per minute; (4) posting-bookkeeping machine in the accounting division.

various firms. If a time question is involved, a number of manufacturers within an area are called on the telephone and are asked for quotations on a particular item. In some cases, the Government purchasing officer informs the supplier as to the approximate needs.

Prospective bidders may make a definite price bid at a particular price, and even though such a price may be as much as 15% higher than similar bids, the bidder may receive a portion of the contract award, in line with the policy of aiding small manufacturers.

### Large Volume of Purchases

The bulk of the Procurement Division's purchasing is now mainly for war-time needs. The General Schedule of Supplies, under which the Division normally purchased all of the staple items used in the Government services, still is much the same as during normal periods insofar as types of commodities purchased are concerned. However, the volume of purchases has been increased sharply from a total volume of approximately \$64,000,000 in 1940, to \$119,000,000 in 1941, and an estimated level of what may reach well over a possible \$300,000,000 during the current year.

In the field of purchases on the General Schedule of Supplies, the Procurement Division is attempting to consolidate the purchases of various Government agencies as much as possible into a mass purchasing pool, and then fan this accumulated business out as widely as can be accomplished to bring as many manufacturers as possible into the supply picture.

The war-time functions of the Procurement Division are in purchasing for Lend-Lease, the export require-





By LUCIUS R. EASTMAN

Chairman of the Board

American Arbitration Association



**E**ARLY in 1939, when war clouds were rumbling over Europe and the future of international trade was growing uncertain, the Purchasing Agent for a manufacturer of paper products and the sales agent for a foreign paper manufacturer met in New York to negotiate a contract for a large quantity of wood pulp, to be delivered in periodic installments. Before that contract could be carried out, it was destined to be affected by many tremendous events—the outbreak of war, the mining of trade routes, naval blockades and the confiscation of products for military purposes.

The contract included a comprehensive *force majeure* clause, providing that if certain specified conditions came into being—acts of God, war, detention at sea, mobilization, obstruction of navigation, etc.—to prevent the manufacture, shipment or sea-transport of wood pulp, seller could cancel shipments required to be made while such conditions existed.

There was, moreover, a further provision in the contract, for the protection of both buyer and seller—an arbitration clause guarding against the dangers of unsettled disputes or differences that might arise.

A third provision, known as a "war clause rider" covering the cancellation of the contract by seller in the event of failure of the parties to agree upon the payment of increased costs due to war conditions, was rejected by the buyer on the ground that the seller, forewarned against this contingency, must take that risk.

Two shipments under the contract were made on schedule. Then, on September 1, 1939, Germany's invasion of Poland signalled the beginning of the World War. Blockades were immediately put into force, sea lanes were mined, exports were licensed, and on November 30, 1939, came the invasion of Finland by Russia.

Few ships risked the dangers of war, blockade and mines. One, however, got through, after a momentous voyage during which it was detained by both the German and the French navies, went aground off the coast of Holland, put into port for repairs and finally reached its destination, delivering to the importer the October quota and 333 tons on the balance. There were no further deliveries against the contract.

The importer, who instituted a claim of \$400,000 against the exporter for failure to deliver, contended that the exporter could be relieved from its obligation only if conditions actually *prevented* manufacture and transportation of goods. In order to show this was not the case, the importer claimed that during the period when it could not obtain deliveries, the exporter had delivered thousands of tons of pulp to other customers in the United States, for some of which it received as high as \$70 per ton, whereas the contract price between the parties was \$26 per ton. Since the importer had refused to include in the original contract a war clause rider which would have compelled it to pay extra costs of manufacture or shipment due to abnormal conditions arising, it had refused to agree to pay such increased costs on later shipments of pulp. In brief, the importer's position was that only if the exporter had been unable to bring and had not actually brought any pulp into this country during the latter part of 1939, would it have been relieved from its obligation under the contract.

Against this charge, the seller contended that only by a long, hazardous trip, partly by rail and partly by truck over almost impassable roads to a far northern port, was it able to ship any pulp to the United States, and this was apportioned among customers willing to pay the extra costs.

# ARBITRATION WORKS!



**When contracts and agreements fail because of extraordinary wartime conditions and unforeseen emergency regulations, an arbitration clause invokes the rule of reason and equity**

Here, then, was a dispute as to the applicability of the *force majeure* clause. Where that clause had failed, the arbitration clause succeeded, and the respective contentions of the parties proceeded promptly to determination by a board of arbitrators in the Commercial Arbitration Tribunal of the American Arbitration Association.

Experiences of this nature are repeated over and over today, under varying circumstances, both in the importing field and in domestic trade, where the risks—less fateful, perhaps—are just as real and numerous, and far less predictable. Why, and how, does an arbitration clause prove effective in hurdling these risks? Why is it that many disputes that arose during and at the close of World War I remain unsettled to this day? What advantage does the Purchasing Agent in 1942, for example, enjoy over his predecessor of 1917?

## **Purchasing Agents Approve**

Thirteen years ago the National Association of Purchasing Agents, through its Executive Committee, gave arbitration a tremendous boost when it took the unprecedented action of recommending that every member of the Association include a provision for arbitration in their purchase contracts.

If the following years have been eventful ones for the world, they have been eventful ones for arbitration as well. Whirling along at a less dizzy pace, arbitration has reached a place in the economic affairs of the country where it is able to play a vital part in the great war effort in which this country is now engaged.

In all of this development and growth, Purchasing Agents, through their National Association, have had

a part. Today in fourteen states, including such important industrial ones as New York, New Jersey, Connecticut, Massachusetts, Pennsylvania, Ohio, California, Michigan, there are modern arbitration laws making an arbitration provision in written contracts valid and enforceable. In the passage of these laws the National Association of Purchasing Agents not only gave endorsement, but performed yeoman service through their affiliated local organizations.

When the American Arbitration Association was building its national system of arbitration, which now extends over 1,600 cities and has enlisted the service of some 7,000 men on a National Panel of Arbitrators, the National Association of Purchasing Agents was the source of hundreds of nominees, highly qualified men in many industries and in many cities, to aid in the arbitration of commercial disputes.

In the dissemination of standard arbitration clauses, in discussions at group and national conventions, in articles in trade papers and in countless other ways, Purchasing Agents have helped to build a solid foundation under the arbitration system which American business men enjoy today, and a legal basis for the use of arbitration clauses.

## **Clauses Are Widely Used**

In 1929, the contract which contained an arbitration clause was an exception. Today, there is no undertaking too large or too small to enjoy the protection which an arbitration provision affords. The greatest customer in the history of the world, for example—the United States Government—is spending a billion dollars for "Liberty Ships." In the contracts for these





Lucius R. Eastman

**A typical arbitration proceeding. In scores of similar conferences throughout the nation, arbitration is taking the place of costly and protracted litigation.**



ships between the U. S. Maritime Commission and the shipbuilders, there is a clause providing for the arbitration of any disputes which may arise. A Bronx housewife decides to store her household belongings "for the duration," and if her contract is with a member of the New York Furniture Warehousemen's Association, it will contain an arbitration clause.

The British Purchasing Commission, the Australian and the Canadian Purchasing Commissions, spending millions of dollars on supplies in the United States, the Amtorg Trading Corporation, representing the Russian Government, Sweden, Finland (in more fortunate days)—all use arbitration clauses in their purchasing contracts.

Today, the Purchasing Agents concerned with great quantities of raw materials or manufacturing equipment or completed commodities are in much the same position, in a larger way, as the housewife in the market for linens, clothing or household supplies—their ability to secure the goods depends upon the effect of the war on the supply.

It is no longer a "buyer's market." It is a war and a national defense market. The buyer gets what is

left, after priorities for war production have taken their toll.

Americans, in their unity behind the war program, are entirely willing to make sacrifices and to do without many things, heretofore considered essentials, which the Government needs. At the same time claims of priorities, government orders and restrictions, etc., must not be allowed to be used as grounds for not fulfilling contracts when such claims are not valid and are put forward merely for the sake of avoiding obligations.

Such questions are already coming up in the courts and in arbitration tribunals. Such questions, for instance, as to whether goods on order were already manufactured and ready for delivery when restrictions went into force; whether partial delivery could be made under a contract when full delivery was impossible, whether a fair allocation of goods available had been made to a manufacturer's customers when a *force majeure* clause prevented complete deliveries under a pre-war contract, etc.

An arbitration clause in such contracts protects the seller as well as the buyer; brings a prompt determination of disputed questions; gives a quick answer to the question whether the buyer must go into the open market or look elsewhere for supplies; prevents the tying up or wastage of vitally needed materials, and con-

tributes to the maintenance of goodwill and unity so essential in periods of strain and stress.

Since Purchasing Agents write a large proportion of the contracts which are entered into daily by American business men, a brief word concerning the form of such clauses and the circumstances under which they have been held by the courts to be valid and enforceable, under existing arbitration laws, may prove to be of interest.

Arbitration clauses are made part of an existing contract in different ways. The usual method is to insert an arbitration clause in a contract at the time it is made and before it is signed. There is no separate signing of a clause, as it is part of the contract and a signature to the contract suffices.

Usually an arbitration law does not specify any method of attachment, but in two instances it has done so. Under the law of Rhode Island, the clause must be placed just before the testimonium clause or the signature, the purpose being to prevent the signatories from overlooking it. The recently enacted amendment to the Michigan law provides that the clause be made

*Continued on page 171*

# **WE ARE NOW IN THIS WAR**

**We are all in it  
all the way**

**Every single man, woman and child  
is a partner in the most tremendous  
undertaking of our American history.  
We must share together the bad news  
and the good news, the defeats and the  
victories—the changing fortunes of war.**

*( President Roosevelt, Address to the Nation, December 9, 1941 )*

D-367—WE ARE NOW IN THIS WAR—A quotation from the December 9, 1941 address to the nation by President Franklin D. Roosevelt. Size 18" x 24". Color, red, blue and black.

## **War Poster Campaign Aids Industrial Morale**

**U**NDER the direction of Robert Horton, Director of Information, Division of Information, of the Office for Emergency Management, Washington, D. C., a nation-wide campaign to stimulate industrial morale through the distribution of colorful and appropriate posters was recently undertaken. Designed especially to appeal to industrial employees as well as government workers, the variegated hued posters tastefully combine terse messages of importance with appropriate illustrations. Distribution of the posters is currently taking place though Mr. Horton's office in Washington, D. C., as well as through the regional offices of the War Production Board throughout the nation.

Individuals, labor unions, factories, shops and transportation agencies may obtain individual copies or sets of the posters upon request, according to the Washington authorities. Large plants which require several hundred copies of each poster have obtained their required number by writing to Mr. Horton's office and stating the purposes for

which the posters are requested. No charge is made for this material, even where substantial requirements are met. As an example of the appearance of a typical poster, a sample number entitled "Give 'Em Both Barrels" is enclosed with this issue of PURCHASING MAGAZINE.

A careful check of industrial plants shows that these posters are most frequently used adjacent to plant bulletin boards, at floor landings in stair wells, inside shop offices, as decorative pieces for employe lunch rooms and recreation rooms and in departmental offices. In some cases, large plants have ordered as many as five hundred posters to take care of their total requirements, it has been reported.

New posters will be designed and distributed from time to time, according to the Division of Information. Industrial plants which request that future posters be sent to them automatically in stated quantities will receive this service automatically if they write to the Division of Information.



# UNITED WE STAND



Above: D-1339



## Description of Posters

D-1339 — UNITED WE STAND — A long streamer 1 1/4 x 10 feet in length. Red lettering against a white background.

D-367—WE ARE NOW IN THIS WAR—A statement from the President's Message.

D-1655

D-1655—MEN WORKING TOGETHER—Especially designed for display in industrial plants.



D-1980—GIVE 'EM BOTH BARRELS—Designed by Jean Carlu in red, yellow, black and blue. Size 30'' x 40''.

D-00424—DON'T LET HIM DOWN—Especially decorative, red, white, blue, and black lacquered poster. Size 30'' x 40''.

D-1980

D-2112—WANTED FOR VICTORY — Designed to conserve waste materials.



Left:  
D-00424

Right:  
D-2112





# CONSERVE ALUMINUM



**A**LTHOUGH today's production of aluminum in this country is several times as great as it was in the last full peacetime year, 1938, and a further vast expansion program is under way in the industry, the military requirements of this important metal essential to aircraft production and other uses are taxing all avail-

able producing capacity to the very limit and the new capacity now under construction will scarcely do more than keep up with the constantly increasing demands during the war emergency.

Looking ahead, the situation appears to be definitely under control. This is largely due to the fine cooperation of the Aluminum Company of America, which is spending more than 215 million dollars of its own funds for plant expansion, besides relinquishing—temporarily but completely—its civilian markets built up during a half century of industrial effort, and voluntarily integrating its own large hydro-electro power system in the Tennessee River Valley with that of TVA (under the latter's direction) so as to employ every available kilowatt for the production of aluminum. Other new plants are also coming into production, adding to the available supply. Meanwhile, and for many months ahead, the need for strict conservation is urgent.

To the traditional statement that every pound of aluminum used is a pound of weight saved, we may add today that every pound of aluminum saved or salvaged releases another pound of primary metal for some vital military use. Aluminum scrap generated in fabricating plants this year, if correctly handled for proper processing, will produce enough usable metal to equal the output of a fair-sized aluminum reduction plant.

## I. CONSERVATION IN USE

Aluminum has been on the critical materials list since the very beginning of the defense program, and was among the first of the materials to be placed under definite control through limitation orders. The primary metal was put on a mandatory priorities status on March 22, 1941, directing the flow of supplies predominantly into channels of essential military use. On June 10th, aluminum scrap was also brought under full priority control to prevent the diversion of this potential source of supply, and the order permitting some greater latitude in the distribution of low grade metal was revoked.

On January 23, 1942, Conservation Order M-1-e was issued, prohibiting the use of aluminum (other than on Army, Navy, and Lend Lease contracts) except in the manufacture of fifteen specific items, and then only where the use of some alternate material is impracticable. These permissive uses include:

- (1) Anhydrous aluminum chloride, for use only in the production of dyes for defense textiles, of high-octane gasoline, tear gas, nylon, or pharmaceuticals. Only low grade aluminum may be used.
- (2) Chemical processing equipment, where chemical action precludes the use of other material.
- (3) Commercial aircraft, on orders bearing A-10 or higher priority ratings.
- (4) Containers for intravenous solutions and blood.
- (5) Fired electrolytic and paper condensers, excluding cans, for replacement of defective condensers in

existing radio receiving sets, but not for use in new sets.

(6) Match plates, patterns and snap flasks essential in the production of orders bearing A-1 or higher priority ratings. Only low grade aluminum may be used.

(7) Orthopedic equipment, where light weight is vital to operation.

(8) Pistons for engines of trucks (1½ tons or over), heavy duty tractors, diesel engines, and portable fire fighting equipment. Only low grade aluminum may be used.

(9) Repair and maintenance parts for mechanical or electrical equipment, domestic or industrial, where other material can not be used, and only where an equivalent weight of similar defective aluminum parts has been returned by the ultimate consumer and disposed of in the specified manner. Only low grade aluminum may be used.

(10) Welding rods.

(11) X-ray tube housings.

(12) As a deoxidizer or alloying agent in the manufacture of steel, within specified percentage limitations. Only low grade aluminum may be used.

(13) Thermit powders and ferroalloys.

(14) Zinc base alloy, to the extent of 2% by weight. Only low grade aluminum may be used.

(15) Other alloys, to the extent of 12% by weight. Only low grade aluminum may be used.

## II. CONSERVATION IN BUYING

Conservation in the sense of getting the maximum effective utilization of metal, starts with buying. Within the limitations of use outlined above, proper buying will go a long way toward the conservation of the total aluminum supply, as well as alleviating some of the bottlenecks in capacity. This is no time to start demanding special sheet sizes, yet a careful study should be made to determine whether the proper

standard sheet sizes are being specified for the most efficient handling in each plant. On the other hand, too rigid specifications on sheet sizes often place unnecessary burdens on the producer, and may increase material costs.

Maximum capacity at the rolling mill can only be attained by making large stock runs without changing alloy or gauge. The product is then sheared to stand-

ard sizes according to the schedule of orders received. Shearing to size, especially in the larger sheets, often produces a greater quantity of smaller sizes than the producer has orders for, and unless he can sell them as such, they must be thrown in the scrap pile for re-rolling. More often than not, they are quite usable to fabricators who are accustomed to ordering only large sheets, and a little ingenuity or even a slackening of size specifications on the part of the fabricator will permit these small sheets to be used without the necessity of reprocessing and rerolling them. To encourage the use of a certain number of "random standard size" sheets along with the sizes specified, producers may offer a price advantage if the customer will accept 80% of an order in the sizes specified and 20% in other "random standard" sizes.

### III. CONSERVATION THROUGH SALVAGE

The reclamation and salvage of aluminum scrap as a source for usable metal is doubly important today because of the shortage and because the increased use of aluminum results in the production of greater scrap tonnages to be utilized. Reclamation pays such interesting dividends that some large manufacturers have set up complete processing departments of their own. An outstanding example is the Westinghouse Electric & Mfg. Co., where sixty tons of aluminum alloys—enough to build five "Flying Fortresses"—have been reclaimed and melted into ingots in their own plant in a single month. Most fabricators, including aircraft manufacturers, are not equipped for such remelting, and for them it is impractical and unnecessary to carry salvage operations this far, but they have a large responsibility in conserving the supply.

Efficient reclamation demands care in the handling and preparation of scrap, and strict segregation according to form and alloy content, followed by proper processing which is normally possible only in a well equipped producing or smelting plant. To insure maximum recovery, with the metal in its most useful form, the aluminum industry worked out a complete scrap handling and salvage program with the aircraft manufacturers, where the greater tonnages of scrap are now being generated. The essentials of that plan have now been extended to all users of aluminum and are made mandatory in Supplementary Order M-1-d, which directs the handling of scrap within the plant and its return to producers and smelters for reprocessing. This order was issued on January 11th.

Order M-1-d prohibits any person other than a producer or approved smelter from melting, smelting or reprocessing aluminum scrap except by special authorization. Fabricators who have normally been remelting scrap in their own plant for their own use, are permitted to continue this practice—only for the products for which they are currently receiving allocations of aluminum, and with reduced allocations in proportion to the amount recovered. Toll processing, repurchase, and similar arrangements are banned. Segregated scrap consisting of 17S, 24S and 52S aluminum alloys in solid form must be sold only to a producer (Aluminum Company of America or Reynolds Metals Company); segregated scrap other than these alloys, amounting to more than 1,000 pounds a month, must be sold either to a producer or to an approved smelter; mixed scrap, and segregated scrap amounting to less than 1,000 pounds a month may be sold to producer or smelter or to a regular dealer, and the dealers' operations are controlled so that the accumulations are eventually channeled to the same sources (producers

Further widening of production bottlenecks (and likewise a possible reduction in raw material costs) may be achieved by the use of a large number of alloys. For example, the demands for 24S alloys have increased tremendously, and in some cases it is believed that the purchase of this analysis results chiefly from habit. Instances have been found where 24S was being specified for use where lower priced and more easily worked alloys such as 3S, 53S and 61S would do just as good a job, if not better. A greater use of these alloys, which can be produced more quickly, will conserve time and producing capacity, will save scarce magnesium, and may reduce the fabricator's own processing costs. Similarly with respect to forgings, Alloy A51S can sometimes be substituted to advantage for the more popular 14S and 17S alloys.

or approved smelters) for reprocessing. Any plant generating 1,000 pounds or more of aluminum scrap per month, in any form, is required to carry out the segregation program outlined in the order.

The approved aluminum smelters listed in the order are as follows:

**California:** Federated Metals Div., American Smelting & Refining Co., Los Angeles and San Francisco; Berg Metal Co., Los Angeles; Morris P. Kirk & Sons, Inc., Los Angeles.

**Illinois:** Apex Smelting Co., Chicago; Aurora Refining Co., Aurora; Wm. F. Jobbins, Inc., Chicago; United States Reduction Co., Chicago.

**Indiana:** Federated Metals Div., American Smelting & Refining Co., Whiting.

**Kansas:** Sonken-Galamba, Kansas City.

**Michigan:** Federated Metals Div., American Smelting & Refining Co., Detroit; Bohn Aluminum & Brass Corp., Detroit.

**Missouri:** Federated Metals Div., American Smelting & Refining Co., St. Louis.

**New Jersey:** Federated Metals Div., American Smelting & Refining Co., St. Louis.

**New York:** Alloys & Products, Inc., Bronx; Electro Refractories & Alloys Co., Lackawanna; Samuel Greensfield Co., Inc., Buffalo; Niagara Falls Smelting & Refining Co., Buffalo.

**Ohio:** Aluminum Smelting & Refining Co., Maple Heights; Aluminum & Magnesium, Inc., Sandusky; Cleveland Electro Metals Co., Cleveland; National Bronze & Aluminum Foundry, Cleveland; National Smelting Co., Cleveland.

**Pennsylvania:** General Smelting Co., Philadelphia; North American Smelting Co., Philadelphia; Geo. Sall Metals Co., Philadelphia.

By restricting reprocessing to an accredited list in this way, there is assurance of proper and efficient recovery and maintenance of product standards, as well as definite control over all available tonnage of reclaimed metal.

The segregation program established in the order requires each individual alloy, and pure aluminum as well, to be segregated from the scrap of other alloys. It also requires segregation of scrap according to the form in which it is produced, into two general classifications: "Solids"—generated by shearing, clipping, cutting, blanking, or similar process; also defective or rejected wrought aluminum parts, defective or rejected castings and gates, sprues, risers, or similar foundry scrap; "Machinings"—generated by machin-



ing, drilling, boring, turning, milling or like operations. In no event shall solids and machinings be combined. All scrap not segregated by alloy content, or which can not be identified by alloy content, is classed as mixed scrap, but solids and machinings in this classification are kept separate. A third grouping of mixed scrap, which is kept separate from the other two, includes grindings, sawings or other fines, drosses, skimmings and sweepings.

It is evident from these regulations that the handling of aluminum scrap must begin at the machine or in the department where the scrap is produced, in order to prevent contamination. That, too, is covered in the order. It requires that a responsible employee shall be appointed in each plant to supervise the collection, segregation and handling of all scrap. The name of this individual must be recorded with the Aluminum and Magnesium Branch of the War Production Board in Washington. All salvage functions must be performed under his direction. Except by

specific authorization of the Director of Priorities, the responsibility can not be delegated to a dealer or to any person who is not a regular employee. Whenever there is subcontracting which involves the furnishing of aluminum, the prime contractor has an obligation to see that an adequate program of scrap collection and segregation is made a part of the agreement.

The mechanics of segregation are also set forth in detail. It is to be effected by collection at the machine where the scrap is generated. Separate containers for collection and separate bins for storage must be provided for the scrap of each alloy as distinct from other alloys, and for solid and machining scrap of the same alloy. All containers and bins must be clearly marked to identify the form of scrap for which they are intended, must be used only for that form of scrap, and must be kept in good condition. In shipping segregated scrap, each unit must in turn be clearly marked as to its alloy specification, its form, and the name of the plant where the scrap was produced.

#### IV. IMPORTANCE OF SEGREGATION

The emphasis placed upon careful segregation in these regulations, and the detailed instructions which are incorporated into the official governmental order, are readily understood by the metallurgist and by the producer or smelter whose responsibility it is to rework the scrap into metal of definite analyses and characteristics. It may not be so clearly apparent to the fabricator and to his operators at the machines. Yet if these precautions are not observed, their accumulations of scrap—potentially valuable and urgently needed in the production of additional metal—will probably lose the greater part of their value and usefulness.

The metallurgy of alloys is an exact science, and the characteristics of each alloy depend upon adherence to an analysis with specified percentages of the various alloying elements. In plants where alloy scrap of a given analysis is merely remelted for use in the same application, the problem is relatively simple, being concerned chiefly with keeping out impurities during its preparation for re-use. In dealing with different lots of scrap, each of a known analysis, it is possible to build up the mixture with additions of the various elements to arrive at the desired percentages. But these alloying elements vary in kind as well as in percentage, and a useful element in one analysis may be an impurity (contamination) of a serious nature in another, and may be exceedingly difficult to remove, destroying the particular qualities or characteristics that the metallurgist is seeking to produce and that the fabricator demands for his product.

For example, the 24S alloy acquires certain very special characteristics by adding to the base metal (aluminum):

4.5% copper  
0.6% manganese  
1.5% magnesium

The 52S alloy acquires other special characteristics because it contains:

2.5% magnesium  
0.25% chromium

If some scrap of the latter becomes mixed with the former, three things happen: (1) its own characteristics are lost; (2) it adversely affects the characteristics of the 24S material; (3) the chromium content of the 52S is wasted. Chromium is scarce, and like other vital metals it should be conserved. This in itself is no

small item when we consider the quantities of aluminum alloy scrap to be dealt with today.

Segregation is the all-important secret to proper handling of aluminum alloy scrap that is to be reprocessed into usable metal. Conversely, contamination is the "fifth columnist" whose damaging effects are so disastrous that it will nullify all segregation efforts. The worst member in the fifth column of contamination is stainless steel. Wearing the same uniform as aluminum (i.e., having the same appearance), it slips in unnoticed, and if it is not caught and removed, it will raise the iron content of the metal so high that the batch of scrap containing it is rendered useless so far as reprocessing it into a specified alloy is concerned. But as long as each aluminum alloy is kept separated from all others, and is free of ferrous alloys and other impurities, scrap can be reprocessed by aluminum producers and remelters who are equipped to handle it, to make good, usable alloy products. Of course, to obtain high and uniform characteristics in the resultant metal, the important factors are metallurgical control and "know-how."

The fabricator's part is to set up a scrap procedure carefully worked out to make it thoroughly fool-proof, and provided with adequate supervision. In any well organized aluminum scrap segregations program, contamination must be practically non-existent.

Clear identification of the different alloys is also essential. A common method is to use colored containers, or colored cards for containers, matching with colored job tickets and assigning a different color for each alloy. Loose scrap that is pressed into briquets before shipment to the remelter is similarly identified with a spot or stripe of the same color used throughout the plant.

In normal times, the urge to segregate and reclaim scrap depends largely on the supply and demand for scrap in the open market. In other words, the cost of proper segregation may pay or it may not. But today we are not concerned with normal times; our concern is with the material. Taking aluminum sheet as an example, it is believed that with reasonably good cooperation on the part of everyone, and with an all-out conservation effort, segregated scrap available for reprocessing would amount to 15% or 20% of the sheet fabricated. And this is by no means a small figure, in view of the quantities of aluminum sheet which are going into the defense industries today.



# BASING POINT PRICES UNDER WARTIME PRICE CONTROL

O. P. A. ceiling price schedules have recognized this controversial practice, and have sanctioned its use without giving it official endorsement

By **GEORGE H. SAGE**

Member of the Chicago Bar

**W**ITH the advent of Governmental price control under, at first, Defense, then later, actual War conditions, an observer might well have wondered what action the Government would take on that most controversial of industrial price policies—the basing-point pricing system. And this would not have been an idle inquiry. For many years various branches of the Government have inveighed against this pricing policy as maintained and operated in American industry.

At the forefront in the attack has been the Federal Trade Commission. This administrative agency, established under the Federal Trade Commission Act in 1914, was empowered by Congress to take administrative action against "unfair methods of competition" in industry, a phrase since liberally construed by the Courts to apply not only to unfair competitive practices, affecting the plane of competition, but also to restraints of competition, affecting the very maintenance of competition itself. In various studies of particular industries, particularly the iron and steel industry, prepared and published by it over the years, the Commission has made quite clear its bitterly hostile attitude toward the pricing system as the very diabolical invention of the Devil to create or facilitate monopolistic conditions in industry. In actual complaints, several now pending, it has proceeded to exercise its statutory authority in attempts to strike down this pricing policy. The industries against which the Commission has initiated complaints include cement; combination wood and wire portable corn cribs and silos; agricultural, chemical and building lime; rigid steel conduit; vitrified clay sewer pipe; power cable and wire; malting barley; hardwood charcoal; industrial rivets; milk and ice cream cans; snow fence; book paper, coated paper and similar papers; paper, pulp and wooden dishes; calcium chloride; water gate valves, hydrants, fittings and similar products; and veneer containers for packing fruits and vegetables. The mere recital of these numerous complaints can leave no doubt that in its attitude on this policy the Commission "ain't fooling."

The Department of Justice, the other prosecuting agency of the Government under the Anti-trust Laws, has also taken official action in striking at basing-point

pricing systems. The most notable instance was its successful suit, fiercely contested, against the Sugar Institute, the trade association for the sugar refiners, where among the numerous activities involved was the alleged uniform adoption, or at least maintenance, of a "freight application" pricing system, a variation of the basing-point pricing system. Other industries the objects of more recent attacks include the potash industry, involving specifically a "C.I.F." pricing system, and the newsprint industry, involving specifically a regional zone pricing system, both merely variations of the fundamental basing-point pricing system.

The Treasury Department, through its Procurement Division, has on numerous occasions complained to other branches of the Government of uniform identical bids, even to the third or fourth decimal place, submitted by the various manufacturers in industries observing the pricing system. Testimony to this effect was also furnished by the Treasury Department in the hearings before the T.N.E.C.

The Department of the Interior has also been confronted with the same situation of uniform delivered prices on purchases from manufacturers in basing-point pricing system industries for various Governmental projects. Secretary Ickes, when confronted with these situations, has been induced to award the particular contracts to those manufacturers located most distant freight-wise from the particular Governmental projects, presumably on the theory that if the Government could not benefit by alleged absence of competition among the manufacturers then at least the hard-pressed railroads might benefit by the increased freight revenue.

Relatively recently the T.N.E.C. closed its long-extended hearings on the causes and effects of economic and financial concentration and the decline of competition in an effort to determine the underlying weaknesses and defects of the American economy. Conspicuous among the subjects reviewed was the basing-point pricing system, with especial reference to its operation in the steel industry, every phase being thoroughly canvassed. Only the outbreak of more dramatic events has prevented Congressional consideration of and action upon the resulting findings and conclusions.

These vitriolic aspersions upon the pricing system have even passed from the stage of verbal denunciations to the stage of proposed remedial legislation. Bills have been introduced in Congress and extended hearings held on them, specifically designed to prohibit the system. In this connection the Federal Trade Commission has been a leading advocate of legislation outlawing the system.

Independent economists as well have attacked this pricing policy. One leading economist in particular has even written an extended book on the subject, dripping with the most caustic criticism. Its very title, for example, characterizes the policy as constituting the "Masquerade of Monopoly."

#### Has Government Relented?

In view of this substantial volume of criticism, more approaching outright denunciation, most of it originating in Government circles themselves, the adoption by the Office of Price Administration of various price schedules giving apparently full official recognition to the existing basing-point pricing system in the particular industry might well at first appear to our observer indeed surprising. Price schedules fixing maximum prices, promulgated by the O.P.A., have thus recognized the respective multiple basing-point pricing systems in the iron and steel products manufacture, iron and steel products resale, iron and steel scrap, coke, relaying rail, and formaldehyde industries; the respective freight equalization pricing systems in the asphalt or tarred roofing products and the paraffin wax industries; the respective regional zone pricing systems in the copper, acetone, glycerine, normal butyl alcohol, and wood alcohol industries; and the flat delivered price area pricing system in the paper board industry (East of the Rocky Mountains). No, indeed—there is no mistaking it—the telltale indicia of the system are there, such as in the Price Schedule for the Iron and Steel Products industry, where appear "basing points," "governing basing points," "base prices," "extras," "price leadership," "delivered prices," etc.

Whatever the past attitude of different Governmental departments may have been, the important question that now naturally arises is whether this action by the O.P.A. is evidence of a complete change in attitude by the Government toward the pricing system, or at least of a definite trend in the other direction. To some industries whose whole price structure has long been based upon the system, such an event would indeed border too much on the miraculous to be true, for it would relieve them of the ever-present danger of Governmental denunciations, investigations, legislation, and even actual prosecutions under the Anti-Trust Laws. Other circles, on the other hand, in sharp contrast would undoubtedly consider such an event a catastrophe, second in devastating effects to the repeal of the Sherman Anti-Trust Act itself, affecting the whole economic fabric of American life, with probable economic, social and political repercussions.

The O.P.A. itself has sought, at least purportedly, to avoid either possible inference by these two antagonistic groups and to preserve for itself a neutral position. In the important Price Schedule for the Iron and Steel Products Industry, practically the first Schedule recognizing a basing-point pricing system, the O.P.A. thought it necessary to make the following cautious reservation:

"In this Price Schedule the Office of Price Administration and Civilian Supply is utilizing the basing point, price leadership and extras systems, presently in effect in the steel industry, including the customary practice of steel



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producers in gearing their own delivered prices to the base prices announced by recognized price leaders. Such acceptance of these systems, merely as a vehicle for determining prices, should not be regarded as approval thereof, nor should this reservation be regarded as indicating disapproval."

Similarly in the price schedule for the Asphalt or Tarred Roofing industry, some 40 Price Schedules later, the O.P.A. again apparently thought it necessary to repeat a similar cautious reservation:

"The Schedule utilizes the shipping point, freight equalization, and allowance systems presently in effect in this industry, including the customary practice of free deliveries in free shipping zones. Such acceptance and incorporation of these systems into this Schedule, merely as a vehicle for determining prices, should not be regarded as approval thereof, nor should this reservation be regarded as disapproval."

In spite of these cautionary reservations, neither of the opposing groups will of course feel itself deceived by these disclaimers. Each group will undoubtedly draw its own inferences, naturally to coincide with its own predilections.

This question of future Governmental policy, as indicated, is thus far from academic. It is not academic to the industries observing the pricing system. The United States Steel Corporation, for example, in preparation for the hearings before the T.N.E.C. on the basing-point pricing system in the steel industry, retained outside expert economists and incurred other substantial financial expenditures in attempted defense and justification of the system. Following the hearings,

moreover, it published and circulated handsomely-bound copies of certain of the studies prepared for it. All this time, effort and expense was obviously not incurred merely for the sole purpose of making an additional contribution to the economic literature on the subject—it was incurred in a determined effort to furnish an economic justification of a pricing system that appeared in danger of being the object of legislative prohibition or restriction, affecting vitally the whole price structure of the industry.

To industrial purchasers the question is also far from academic. Engaged in purchasing the materials, goods or products of the manufacturers in the basing-point industries, they are vitally affected through the prices charged for their purchases. "Vital" is indeed the proper descriptive term, if the action of a certain group of industrial purchasers in the Chicago area during the early 1920's affords any criterion. At such time industrial purchasers located in the Chicago area, engaged in purchasing rolled steel products from nearby steel mills, were compelled to pay delivered prices reflecting "phantom" freight from Pittsburgh to Chicago, pursuant to the "Pittsburgh plus" pricing system, a single basing-point pricing system, then observed in the steel industry. Finding themselves injuriously affected with relation to competing industrial purchasers more favorably located with reference to Pittsburgh as the basing-point in the steel industry, the Chicago group finally initiated proceedings before the Federal Trade Commission. After extended hearings the proceedings culminated in a cease-and-desist order by the Commission in 1924 against the United States Steel Corporation and its subsidiaries. A multiple basing-point pricing system was thereafter adopted. Only the relatively recent passage of the Wheeler-Lea Act, making final any order of the Commission not appealed from within a certain period, has caused the Corporation to seek a judicial review of this order in the courts. Unless the present generation of industrial Purchasing Agents are a different breed of men from their predecessors, they, too, must consider the question of Governmental policy a vital one.

#### A Question of Economics

An evaluation of the significance, if any, of the action of the OPA respecting further Governmental policy toward the basing-point pricing system must necessarily depend upon the nature and operation of this pricing system, and its economic effects. A brief review of these subjects, all that space limitations permit, will indicate what the verbal fireworks are all about.

The basing-point pricing system, essentially, consists merely of a price formula for the determination of uniform delivered prices at any destination point, irrespective of the many variable factors that ordinarily enter into the determination of delivered prices. These variable factors include differing mill prices, if any, at the various manufacturing plants; differing freight rates from the widely-scattered manufacturing plants to the equally dispersed consuming centers; differing transportation methods, such as rail, water or truck, varying in their relative costs; differing rail rates themselves, as diversely interpreted from the complex railroad tariffs; differing actual weights on the same type of products as between the various manufacturers, with necessarily differing actual transportation costs, based on actual weights; and differing specifications ordered by purchasers, with the varying additional or reduced costs. All these variable factors the basing-point formula purports to reconcile into

a single uniform delivered price at any destination point charged by any seller, regardless of these many differences, if any, in mill prices, transportation costs, transportation methods, freight tariff interpretations, actual weights of products, or purchasers' specifications. Although thus a remarkable all-reconciling pricing formula indeed, yet so relatively simple may the application of this formula become in actual practice that any salesman or billing clerk who knows his arithmetic may readily arrive at the determination of the same identical delivered prices at any destination point as may the salesman or billing clerk of a competitor.

#### Easy If You Know How

This remarkable uniformity in delivered prices on the part of all manufacturers in an industry, hardly the result of pure coincidence, is achieved by relatively simple devices or expedients, well illustrating the common saying, "It's simple when you know how." The primary factors in the determination of uniform delivered prices—varying mill prices and varying transportation costs as between the different manufacturing plants—are handled by the pricing formula proper, whatever its form, namely: lowest combination of basing-point price and freight determines the delivered price at any destination point. Where a single producing point is recognized in the industry as the "basing point" for the industry (i.e., the "single basing-point pricing system"), then the *simple sum* of this basing-point price and the rail freight rate from this point to the particular destination point determines the delivered price at the destination point, irrespective of the actual shipping point and of the actual transportation cost. Since only one basing-point exists under this form, the "lowest combination" formula involves only the simple sum of basing-point price and freight. The notorious "Pittsburgh-plus" pricing system in the steel industry, prior to the Federal Trade Commission cease-and-desist order in 1924, was a single basing-point pricing system, with Pittsburgh as the basing-point, the simple sum of the price at Pittsburgh and the rail freight rate from Pittsburgh to the destination point determining the delivered price, regardless of the location of the actual shipping point and of the actual transportation cost. The "Pittsburgh-plus" pricing system is in fact the classic illustration of a single basing-point pricing system. For a more recent illustration, the manufacturers in the cast iron soil pipe industry, with their plants variously located in many States, have also observed a single basing-point pricing system ("Birmingham-plus"), with the simple sum of the price at Birmingham, Alabama, and the rail freight rate from Birmingham to destination point determining the delivered price at any destination point.

Where certain only of the producing points are recognized in the industry as the basing-points (i.e., the "multiple basing-point pricing system"), then the *lowest combination*, as distinguished from the *simple sum*, of basing-point price and freight determines the delivered price. The cement industry illustrates this system on a national or regional basis, as does also the agricultural, chemical and building lime industry on a regional basis.

Where all the producing points, rather than merely certain points, are recognized in the industry as basing-points, (i.e., "the freight equalization pricing system"), the same formula of *lowest combination* of basing point price and freight determines the delivered price at any destination point, regardless of the actual ship-



ing point and the actual transportation charges. The asphalt or tarred roofing products industry, previously cited in other connections, serves as an illustration of this particular form of basing-point pricing system.

Where the marketing territory is recognized as a single regional zone or as divided into multiple regional zones (i.e., the "regional zone pricing system"), then the delivered price under the basing-point pricing system consists of the flat delivered price in the particular zone. Although somewhat differing in form, this pricing system is still essentially a basing-point pricing system, for the flat delivered price is generally determined by the sum of an arbitrarily-assumed mill price and the weighted average transportation cost to the various destination points within the single regional zone or within the basic zone in the case of multiple regional zones, with certain differentials added to determine the delivered prices in succeeding regional zones. Illustrative industries include newsprint, book and coated papers, snow fences, and veneer containers for packaging fruits and vegetables.

The secondary factors in the determination of uniform delivered prices—differing transportation methods, freight tariff interpretations, weights of products, and purchasers' specifications—ordinarily complicating, if not preventing, the determination of uniform delivered prices, are handled by other equally effective devices, each integrated into the pricing system. Differences in transportation methods, such as rail, water, truck or a combination of these, with their varying transportation charges, are effectively eliminated as a disturbing element in determining uniform delivered prices by the simple expedient of calculating delivered prices on an "all-rail basis," regardless of the actual method of shipment. By simply ignoring these other transportation methods, these other methods simply cease to exist for the purpose of pricing. Differences in possible interpretation of complex freight tariffs, resulting in differing applicable freight rates, are equally effectively obviated by the uniform observance of a "common freight rate book" compiled and circulated by the manufacturer group or perhaps by the leading manufacturer as the price leader in the industry.

Differences in the actual weights of the products, regardless of identity in specifications, upon which basis actual freight charges are incurred, are handled also equally effectively by the uniform adoption and observance of "uniform weight tables." Differences in purchasers' specifications in the industry's products, requiring the use of "extras" for specifications exceeding the standard specifications and of "deductions" for specifications falling short of the standard specifications, such as in the steel industry, are handled by the uniform adoption and observance of "uniform extras and deductions."

### Pro and Con

In short, the effects of the differences in secondary factors entering into the pricing of goods on a delivered price basis, are effectively eliminated by the uniform observance of the same transportation method, "common freight rate book," "uniform weight tables," and "uniform extras and deductions." Not much room, in fact no room, is left for the independent determination of delivered prices reflecting the several primary and secondary factors entering into this determination. This uniform observance, it must be noted, may result not necessarily from any concerted action or agreement among the manufacturers in the industry but from the long established custom



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accepts basing-point prices for the duration

or practice in the industry voluntarily and independently recognized and observed by each individual manufacturer.

As might be expected, the economic soundness of a basing-point pricing system in an industry has been seriously questioned. The general economic effects of a basing-point pricing system are stated to include the elimination, even though not complete, of price competition through the establishment, maintenance and enforcement of a uniform delivered price or "one-price" system to all purchasers at any destination point; the maintenance of high prices because of the wasteful cross-hauling and duplicated selling expenses; the maintenance of prices at unduly high levels in order to cover the relatively high costs of the less efficient and less economic producers; the facilitation of price leadership on the part of the larger enterprises in the determination of prices at the basing-points; and the inducement of new mergers or, at least, the favoring of existing mergers because of the minimization of transportation costs resulting from the control of strategically-located plants at widely-scattered points.

With respect specifically to "basing-point" producers, additional economic effects are stated to include: the maintenance of high prices in the producer's natural freight rate territory; the maintenance of high prices in at least a part of the producer's natural freight rate territory, even upon the reduction of prices at neighboring basing-points; the reflection of competition through the absorption or absence of

absorption of freight rather than through price reduction, a relatively high base price merely encouraging freight absorption by competing sellers at neighboring basing-points, while a relatively low base price merely discouraging freight absorption; the removal of any downward pressure on prices through the reduction of base prices for increasing sales; and the giving of an undue price advantage to local purchasers located at a base reducing prices over competitive purchasers located at another base not reducing prices.

The economic effects of a basing-point system, in short, whether general in nature or having specific reference to basing-point mills or to non-basing-point mills, it is charged, include the elimination of price competition, the maintenance of unduly high prices, the favoring of certain classes of purchasers over other classes, and the favoring of subsidiary operating companies of a parent selling company over competing independent purchasers. The f.o.b. mill pricing system is then advocated as a pricing system that will curb the worst and the most of the acknowledged evils of the basing-point pricing system and that goes the furthest in compelling price competition.

### Perfect Competition Is Rare

The basing-point pricing system has been defended, on the other hand, on two main grounds: (1) "inherently monopolistic conditions" in the particular industry, and (2) "vested interests" in the particular industry. With respect to the first ground, the economic characteristics or conditions in the particular industry may effectively preclude "perfect" competition, which is that state of competition under which only one price for a product at any given time can exist in a given market area due to the free interaction of the forces of supply and demand. The economic requirements of "perfect" competition are strict, including a relatively large number of sellers and buyers, freedom of action, freedom of entry, full knowledge of supply and demand conditions, standardization of product, absence of non-price preferences, and reflection of transportation costs in the price. In many industries manufacturing goods, however, the number of sellers may be relatively few, supply may be dependent on demand and conditioned upon the price, the relative location of plants to consuming markets may have been determined by assembly or production costs rather than by transportation costs, transportation may be relatively high, overhead costs may be high, and demand for the goods may be inelastic. In the steel industry, for example, a few large enterprises dominate the industry, the location of plants is determined not by the proximity to the market but by the assembly costs of coal and ore, transportation costs are heavy, overhead costs are high, demand is highly inelastic, and plant capacity is periodically if not chronically unutilized.

With respect to the second ground, "vested interests" in the particular industry, a basing-point pricing system may have been originally followed in the industry because of the relatively great importance of large-scale or mass production, substantial plant investment, high overhead costs, and hazards of "destructive" price competition. Producing plants, in reliance upon such a pricing system in the industry, may thereupon have been established or maintained on the basis of assembly costs rather than of proximity to markets, while the expansion of producing plants may have occurred on the same basis as well as on the

basis of production economies from plant integration. Location of producing plants in consuming market areas offered on inducement, especially in view of the risk of partial utilization, the burden of high assembly costs, and the loss of production economies. The basing-point location, moreover, enabling shipments to be made without any price disadvantage, offered a special inducement for further expansion. Consuming plants of industrial purchasers may similarly have been established, maintained or expanded in reliance upon the continuance of the pricing system. The conclusion is then drawn that the maintenance of a basing-point pricing system in an industry over a long period of time, effecting and conditioning considerable plant investment of both producing and consuming plants, has given rise to certain vested rights on the part of such plants in the continuance of the pricing system, or at least in compensation for loss of such rights in the case of elimination of the system.

Considering, then, the various main alternative pricing systems, the basing-point pricing system is found by this defensive argument the most preferable. The f.o.b. mill pricing system, although having the advantages of eliminating wasteful cross-hauling and duplicated selling effort and expense and of concentrating competition on price, is rejected as destroying the vested rights of producing mills as well as of consuming mills of industrial purchasers in the present advantages of their existing locations, as tending to induce "destructive" or "ruinous" competition for preservation of local markets, as tending to build up a series of "local monopolies", and as being ineffective in any event because of oligopolistic market conditions in inducing price competition. The f.o.b. mill, with freight absorption privilege, pricing system, although having the advantage of eliminating non-basing-points, is also rejected as not ordinarily avoiding cross-hauling, as not resulting necessarily in uniform mill-nets, and as not differing considerably from the basing-point pricing system itself. A zone-price system, although having the advantages of price simplicity, stability and equality within each price-zone, is similarly rejected as not avoiding cross-hauling, as not resulting in uniform mill-nets, and as involving certain special administrative difficulties.

This defense of the basing-point pricing system, based on the inherently monopolistic conditions in the particular industry and on the existence of vested interests in the particular industry, has in turn, it may be noted, been caustically criticized. With respect to the "inherently monopolistic conditions" argument, the factor of overhead costs, in part basic and essential to the argument, it is pointed out, is given an undue and improper importance in the termination of price policy for an industry, since overhead costs are not peculiar to any particular industry but are present in every industry, their relative importance being simply a matter of degree; the effect of mergers, rather than of overhead costs, in reducing the number of competitive sellers, is ignored; and the effect of collusion between members of the industry in determining the industry pricing policy is also practically ignored. The argument, it is further pointed out, seeks to justify the basing-point pricing system by trying to discredit the f.o.b. mill pricing system through describing competition in exaggerated terms of "perfect" competition, and by exaggerating the dangers of "unregulated" competition if the basing-point pricing system is abolished. The argument, in short, it is pointed out, seeks

*Continued on page 174*



**The dictators are so busy making history that they haven't taken the time to study the chapter which teaches that there's always a big job for the rebuilders when the destroyers wind up in the doghouse.**

**By CHARLES FORD**

**O**NCE upon a time there flourished in France a king named Louis, fourteenth of the name. Louis was a gay boy, and he rolled 'em high, free and liberal. He didn't care where the money came from, so long as he got it; and he got most of it. Most of the jack in the realm came to Louis in one way or another, and most of it he blew on wine, women, and song.

But Louis is chiefly remembered for two sayings: "*L'etat c'est moi*," and "*Après moi, le deluge*." In the vernacular of the Purchasing Agent, these historic remarks may be freely rendered: "If you want to know who's boss around here, start something," and "When I get through, anyone who wants to can pick up the pieces."

Two more of the same name followed him. Both ignored the scattered fragments, and the second wound up with his head in a basket. Later a bird named Napoleon tried picking up the pieces; if he had stuck to the French variety he might have made a job of it, but he got ideas and tried to hog the whole European show. But something back-fired on him; the pieces were knocked out of his hands, and Napoleon was assigned a most remote and uncomfortable doghouse.

Most of us can remember how Germany was making monkeys out of the rest of the world, commercially, in the early days of this Twentieth Century. They worked, were persistent, ingenious, enterprising. They were smart enough to find out what the peoples of the earth wanted in the way of goods, and gave them what they wanted. The cream of world trade was rolling their way. Everybody complained, but that didn't worry Germany. But the Germans got ideas; Kaiser Willie had been fabricating and polishing a nice large new snickersnee; he figured Germany might as well go the whole hog and annex the customers as well as the trade, so he started sticking the point of his sword into them to make them squirm into his hands. Willie ended chopping wood in the backyard of his nice new doghouse.

The war started in 1914. We got into it in 1917, delivered a few wholesome socks, mostly with borrowed brass knuckles. There never had been a war like this one, and most people figured there never could be another. We thought we could fix it that way, but got horse-traded out of the kind of settlement we wanted to make. Everybody was busted, Germany



was in pieces; and Europe settled down uncomfortably with a lot of ulcers festering under racial hides, and bound to break out sooner or later. When did any nation refrain from getting into a scrap just because it was busted?

Smarting for years under conditions sadly different from his pre-war prosperity, the Hun broke loose again. An individual, whose real name I am told was Schickelgruber, came to the front. But "Heil Schickelgruber" seemed a little hard to handle, so it became "Heil Hitler." It still is—so far. And Herr Schickelgruber was blue-mouldy for a scrap. I think it is Mr. Shirer who describes how he goes into a rage, belly-flops on the floor and chews the edges of the rug. But he did build a military force that made Kaiser Willie's shining sword look like a kitchen knife, and so far he has given everybody a hell of a time with it.

We are all in it for keeps. It is a strange combination we face—the Schickelgrubers, the Mussolinis, and the Hordes of Little Yellow Apes of Nippon. Any one of the three would sell the other two down the river for six bits per each, and they all know it; and it is this incongruous combination that has the still virile and unconquered peoples of the earth fighting for lives and liberty. No use talking, the rug-chewing Herr Schickelgruber caught most of us with our pants at half-mast.

For a time, after the last peace settlement, we were all swelled up like a lot of poisoned pups. We did a whale of a business at sky-high prices, lent a lot of money we'll never get back. Stocks and commodities were hitched to balloons. The balloons went up—and came down. Values nose-dived to the point where some of them caught fire and there weren't no values. After our war between the states, reconstruction was a mess. Ignorance and incompetence, politics and prejudice, got in their work. After the peace of 1919, it was the same sort of mess, only bigger. In neither case did the right sort of men, with the right sort of brains, tackle the job with the right sort of motive. And after this war is over we are going to need brains and patience and tolerance and far-sightedness to avoid consequences direr even than the last.

At the peace table there will be a few able and high-minded gentlemen, trying with their might to safeguard the future. There will also be among those present, pirates, horse-traders, shell workers, three-card monte men, and the ever present seekers of personal or national profit. And there will be those who have had gunpowder rubbed into their eyes until all Colonel Mulberry Sellers' eye-wash won't rub it out again.

There won't be much merchandise left outside of that devised for blowing the other fellow to hell-and-gone. You can't turn guns and tanks and military planes into the paths of commerce except via the junk yard; and besides, nobody will feel safe without a few weapons on hand in shootable condition. There won't be any money; and looting any kind of a lunch wagon looks good to the busted and hungry.

With money and merchandise short, with industry trying to shift from construction to destruction, with pork barrels and pension—and bonus-grabbing, with the whole damned crazy rush to national and international pie counters, let us hope for the emergence from the ruck of some sort of enlightened statesmanship that may help clear matters up.

The Purchasing Agent—such

of him as may be left—is in for a tough time. It's tough enough now, with everybody scrambling for everything that isn't nailed down by government orders. But the Purchasing Agent will be a most necessary factor in unscrambling eggs not only scrambled, but addled; it might be easier to start from scratch with nothing at all to work with. And it obviously won't do to get too civilized at the start. In beating shooting irons into washing machines, we'll have to hold out a few to keep the Jerries and Japs pious, if they ever get that way. I wonder how many isolationists will be left by that time?

The Purchasing Agent is going to be a big factor in this picking up of pieces. He must help weld these shattered fragments into marketable units. It will be part of his job helping push the units over assembly lines. And the fruit of his efforts will go mostly to the tax collector. There's going to be a lot of stuff to sell and not much money to pay for it. And Senators Sorghum and Cotton and their like will howl from the house-tops that we mustn't try to sell any country that has anything to sell us. But there's going to be a tremendous productive capacity to keep busy, and who's going to use and pay for the product?

One of the more prominent members of the Ford clan once remarked that History is Bunk. A lot of people who think history a sort of excrescence on public school curricula, wanted to know how he got that way. We all know that history, as generally taught, is Bunk. Very Bunk. But when one studies it faithfully and well, some things begin to loom up. Has any nation ever profited by history? Damn few of them. If Kaiser Willie had scrutinized the pages of history, his herd of performing goose-steppers would have kept on worrying the rest of us out of world markets until we woke up. If Herr Schickelgruber had profited by the pages of history instead of writing "Mein Kampf" in his jail-house, Germany wouldn't have asked for another shellacking at the behest of a diseased rug-chewing neurotic.

England lost the American colonies; but the loss taught her how to hold the loyalty of other colonies by treating them as self-respecting peoples.

So, sooner or later, Herr Schickelgruber will chew his rugs in a very special kind of doghouse.

I am one of those skeptics who consider purchasing, not as a profession, but as a job. A damned important job now, but still more important in the future. But now is the time for all Purchasing Agents, organized into a rational, sound, and common-sense body, to work together, to talk freely with one another, to compare notes and experiences: to operate more than ever as a body to deal constructively and intelligently in the distribution and utilization of commodities. A lot of our employers are going to display the most marvelous agility in keeping a hop or two ahead of the sheriff. If they are smart, they will work together, and hop ahead together.

Being a Purchasing Agent now isn't the easiest job in the world. Uncle Sam is so heavily in the market that he is the market. The long, grasping arm of the government reaches across everything. You can't get your fingers into the pie-dish until your Uncle gets his; and you're damn lucky if he leaves you a lick.

From the practice and discipline of picking up pieces when the shooting is over, we are quite likely to develop a purchasing psychology far ahead of anything we have yet seen.



# THE MARKET PLACE



Quotations on basic materials for carloads or mill shipments, with comparative prices quoted one month ago and one year ago

(\* denotes ceiling price)

## ACIDS

|                              | Mar. 1<br>1941 | Jan. 20<br>1942 | Feb. 20<br>1942 |
|------------------------------|----------------|-----------------|-----------------|
| Acetic, 28%, cwt.....        | 2.23           | 3.18            | 3.38*†          |
| Muriatic, 18 deg., cwt.....  | 1.50           | 1.50            | 1.50            |
| Nitric, 36 deg., cwt.....    | 5.00           | 5.00            | 5.00            |
| Oxalic, Works, cwt.....      | 10.75          | 11.25           | 11.25*          |
| Phenol, Works, cwt.....      | 14.25          | 14.25           | 14.25           |
| Sulphuric, 66 deg., ton..... | 16.50          | 16.50           | 16.50           |



## BUILDING MATERIALS

|                                 |       |       |         |
|---------------------------------|-------|-------|---------|
| Brick, N. Y. dock, per M.....   | 12.00 | 12.00 | 12.00   |
| Cement, f.o.b. plant, bbl.....  | 2.15  | 2.15  | 2.15    |
| Glass, single B, per box.....   | 2.70  | 3.45  | 3.14 ↓  |
| Lime, pulv., N.Y., per ton..... | ....  | ....  | 17.00   |
| Nails, wire, per keg.....       | 2.55  | 2.55  | 2.55*   |
| Oak flooring, per M. ft.....    | 80.00 | 85.00 | 85.00   |
| Southern pine, K.C., per M. ft. | 31.69 | 40.50 | 42.50*† |

## CHEMICALS

|  |       |       |         |
|--|-------|-------|---------|
| Alcohol, denatured, gal.....             | .32½  | .65   | .65*    |
| Alumina Sulf., Comm.,<br>Works, cwt..... | 1.15  | 1.15  | 1.15    |
| Ammonia, aqua, 26 deg.,<br>drums.....    | .02¼  | .02¼  | .02¼    |
| Arsenic,<br>White, cwt.....              | 3.50  | 4.00  | 4.00    |
| Red, cwt.....                            | nom.  | nom.  | nom.    |
| Barium<br>Chloride, ton.....             | 77.00 | 77.00 | 77.00   |
| Carbonate, ton.....                      | 56.50 | 56.50 | 56.50   |
| Benzol, pure, gal.....                   | .14   | .15   | .15     |
| Borax, powd., ton.....                   | 48.00 | 48.00 | 50.00 † |
| Chlorine, cwt.....                       | 1.75  | 2.00  | 2.00    |
| Formaldehyde, lb.....                    | .05¼  | .05¼  | .05¼*   |
| Glycerine, drums, lb.....                | .12½  | .18¼  | .18¼*   |
| Lead acetate, white, broken,<br>cwt..... | 11.00 | 12.50 | 12.50   |
| Nickel sulphate<br>Double.....           | .13   | .13   | .13     |
| Single.....                              | .13   | .13   | .13     |
| Potash<br>Caustic, solid.....            | .06¼  | .06¼  | .06¼    |
| Permanganate.....                        | .20   | .20½  | .20½    |
| Sal Ammoniac<br>Gran. white, cwt.....    | 4.50  | 4.50  | 4.50    |
| Gran. gray, cwt.....                     | 5.75  | 5.75  | 5.75    |

|  | Mar. 1<br>1941 | Jan. 20<br>1942 | Feb. 20<br>1942 |
|--|----------------|-----------------|-----------------|
| Saltpeter crystals.....                | .086           | .092            | .092            |
| Soda<br>Ash, 58%, light, bulk, cwt.... | .95            | .90             | .90             |
| Caustic, 76%, solid.....               | 2.30           | 2.30            | 2.30            |
| Sal, Works, cwt.....                   | 1.10           | 1.10            | 1.10            |
| Sodium<br>Bicarbonate, cwt.....        | 1.70           | 1.55            | 1.55            |
| Tri-Sod. Phosphate, cwt....            | 2.35           | 2.90            | 2.90            |
| Silicate, 60 deg., cwt.....            | 1.65           | 1.65            | 1.65            |
| Sulphur, Comm., cwt.....               | 1.60           | 1.60            | 1.65 †          |



## COAL & COKE

|                                |       |       |        |
|--------------------------------|-------|-------|--------|
| Anthracite, stove, mines.....  | 6.25  | 6.75  | 6.75   |
| Bituminous, Cleaf, mine run..  | 2.50  | 2.70  | 2.70   |
| Beehive Coke, Connellsville... | 5.00  | 6.00  | 6.00   |
| By-product Coke, Newark....    | 11.85 | 12.45 | 12.45* |

## FERTILIZERS

|   |       |       |       |
|---|-------|-------|-------|
| Muriate potash, 62-63%, per<br>unit K 20..... | .53½  | .53¼  | .53¼  |
| Sulphate potash, 90-95%, bags.                | 36.25 | 36.25 | nom.  |
| Nitrate soda, bulk.....                       | 27.00 | 27.00 | 27.00 |
| Sulphate ammonia, dom., bulk.                 | 29.00 | 29.00 | 29.00 |
| Steamed bonemeal, 3 and 50 per<br>ton.....    | 34.00 | 37.50 | 37.50 |

## GRAINS

|                                  |      |       |         |
|----------------------------------|------|-------|---------|
| Barley, malting, bu.....         | .75¼ | .91¼  | .95 †   |
| Corn, No. 3, yellow, bu.....     | .61¼ | .81   | .82½ †  |
| Oats, No. 2, white, bu.....      | .38  | .60¾  | .59¼ †  |
| Rye, No. 2, Western, bu.....     | .60¾ | .96¾  | 1.00 †  |
| Wheat, No. 2, hard winter, bu.   | .78¾ | 1.24½ | 1.21¼ † |
| Flour, spring patents, 196 lbs.. | 5.00 | 6.80  | 6.60 †  |

## HIDES

|                                 |      |      |       |
|---------------------------------|------|------|-------|
| Light native cows, lb.....      | .12¾ | .15½ | .15½* |
| Heavy native steers, lb.....    | .12½ | .15½ | .15½* |
| Calfskins, 5-7 lbs. per skin... | 1.60 | 1.65 | 1.65* |

## IRON & STEEL

|   | Mar. 1<br>1941 | Jan. 20<br>1942 | Feb. 20<br>1942 |
|---|----------------|-----------------|-----------------|
| Pig iron, foundry No. 2.....                              | 24.00          | 24.00           | 24.00*          |
| Pig iron, basic, valley.....                              | 23.50          | 23.50           | 23.50*          |
| Cast iron pipe, New York....                              | 52.20          | 52.20           | 52.20*          |
| Forging billets, Pittsburgh base                          | 40.00          | 40.00           | 40.00*          |
| Sheet bars, Pittsburgh base....                           | 34.00          | 34.00           | 34.00*          |
| Wire rods, Pittsburgh base....                            | 40.00          | 40.00           | 40.00*          |
| Cold rolled sheets, cwt., Pitts-<br>burgh base .....      | 3.05           | 3.05            | 3.05*           |
| Hot rolled annealed sheets,<br>cwt., Pittsburgh base..... | 2.10           | 2.10            | 2.10*           |
| Cold rolled strips, cwt., Pitts-<br>burgh base .....      | 2.80           | 2.80            | 2.80*           |
| Hot rolled strips, cwt., Pitts-<br>burgh base .....       | 2.10           | 2.10            | 2.10*           |
| Tin plate, cwt., Pittsburgh base                          | 5.00           | 5.00            | 5.00*           |
| Bars, cwt., Pittsburgh base....                           | 2.15           | 2.15            | 2.15*           |
| Shapes, cwt., Pittsburgh base..                           | 2.10           | 2.10            | 2.10*           |
| Bright wire, cwt., Pittsburgh<br>base .....               | 2.60           | 2.60            | 2.60*           |
| Ground shafting, cwt., Pitts-<br>burgh base .....         | 2.65           | 2.65            | 2.65*           |
| Rails, ton, Pittsburgh base.....                          | 40.00          | 40.00           | 40.00*          |



## METALS, NON-FERROUS

|                                  |        |        |          |
|----------------------------------|--------|--------|----------|
| Aluminum, virgin ingots.....     | .17    | .15    | .15      |
| Antimony, American, spot.....    | .14    | .14    | .14      |
| Copper                           |        |        |          |
| Electrolytic .....               | .12    | .12    | .12*     |
| Chromium, 97%, spot.....         | .84    | .84    | .84      |
| Lead, E. St. Louis.....          | .055   | .0635  | .0635    |
| Nickel, ingot .....              | .35    | .35    | .35      |
| Quicksilver, flask .....         | 173.00 | 203.00 | 198.96*↓ |
| Silver, bars, N. Y., per oz..... | .343/4 | .351/8 | .351/8   |
| Tin, Straits, spot.....          | .513/4 | .52    | .52*     |
| Zinc, E. St. Louis.....          | .0725  | .0825  | .0825    |

## METAL PRODUCTS

|                                |        |        |        |
|--------------------------------|--------|--------|--------|
| Copper, wire, bare, cwt.....   | 15.375 | 15.375 | 15.375 |
| Yellow brass sheets, high..... | 19.48  | 19.48  | 19.48  |

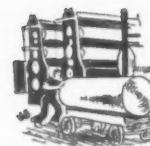


## NAVAL STORES

|                          |        |        |       |
|--------------------------|--------|--------|-------|
| Turpentine, gal. ....    | .451/4 | .821/2 | .82 ↓ |
| Rosin, Grade B, cwt..... | 2.21   | 3.75   | 3.75  |

## PAINT MATERIALS

|  |        |        |        |
|--|--------|--------|--------|
| White lead, dry, basic, car-<br>bonate ..... | .071/2 | .071/2 | .071/2 |
| Carbon black .....                           | .03075 | .03625 | .03625 |
| Shellac, orange .....                        | .16    | .32    | .32 *  |
| Linseed oil .....                            | .095   | .113   | .119 ↑ |



## PAPER

|                                |         |         |         |
|--------------------------------|---------|---------|---------|
| News, roll, ton.....           | 50.00   | 50.00   | 50.00   |
| Book, M. F., cwt.....          | 6.40    | 7.40    | 7.40    |
| Wrapping, northern, cwt.....   | 5.25    | 5.25    | 6.00 ↑  |
| Wrapping, southern, cwt.....   | 4.25    | 4.50    | 4.75 ↑  |
| Wrapping, manila jute, cwt.... | 8.25    | 8.75    | 8.75    |
| Chip board, No. 1, ton.....    | 40.00   | 45.00   | 45.00*  |
| Wood pulp, mech., ton.....     | 34.00   | 36.00   | 36.00   |
| Wood pulp, sulph., No. 1, cwt. | 3.171/2 | 3.171/2 | 3.171/2 |



## PETROLEUM

|   |        |        |        |
|---|--------|--------|--------|
| Crude, Mid-Continent .....                  | 1.02   | 1.17   | 1.17   |
| Crude, Penna. ....                          | 1.89   | 2.30   | 2.30*  |
| Gasoline .....                              | .051/2 | .08    | .083 ↑ |
| Bunker Oil C.....                           | 1.25   | 1.35   | 1.35*  |
| Kerosene, 41-43 grav.....                   | .049   | .053   | .053*  |
| Penn. bright stock, light, 25<br>P. T. .... | .21    | .36    | .36    |
| Penn. cylinder oil, 600 flash..             | .18    | .261/2 | .261/2 |



## RUBBER

|                                      |     |     |          |
|--------------------------------------|-----|-----|----------|
| Smoked sheets .....                  | .21 | .22 | .221/2 ↑ |
| (↑ Rubber Reserve Co. selling price) |     |     |          |



## TEXTILES

|                                   |         |        |           |
|-----------------------------------|---------|--------|-----------|
| Cotton middlings, Galveston.      | .098    | .185   | .1891 ↑   |
| Cotton yarns, 22s.....            | .261/2  | .415   | .42 ↑     |
| Print cloths, 381/2", 64 x 60.... | .057/8  | .08598 | .08691* ↑ |
| Sheetings, 37", 48 x 48.....      | .067/8  | .09875 | .10* ↑    |
| Wool, fine combing, 1/2-blood..   | 1.02    | 1.15   | 1.15*     |
| Worsted yarns, French 2-40s..     | 1.80    | nom.   | nom.      |
| Worsted yarns, English 2-40's.    | 1.771/2 | nom.   | nom.      |
| Silk, Japan, double ex. cracks    | 2.64    | 3.08   | 3.08*     |
| Rayon viscose, 150, 40s.....      | .53     | .55    | .55       |
| Burlap, 101/2-oz., 40".....       | .094    | .1150  | .1150*    |
| Hemp, Manila .....                | .07     | .101/4 | .101/4    |



## THERE'S PLENTY OF DIESEL FUEL

Fairbanks-Morse Diesels use a fuel oil which is a by-product of many gasoline refineries. Hence it is always cheap and plentiful.



# POWER TO WIN THE WAR!

That extra power you need—will you provide it in a way which will:

- ... avoid peak penalties and demand charges?
- ... give dependable stand-by service at low cost?
- ... permit generating hard-to-buy, off-standard types of current which certain equipment demands?
- ... keep your unit power costs low?

You can answer "yes" to *all* these questions—if you generate your own extra power with Fairbanks-Morse Diesels.

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just *any* Diesel. For *power to win*, you must use the *right* Diesel for the job . . . a Diesel that has *stamina* . . . that's built not merely for low fuel cost but also for *low maintenance cost* in sustained heavy-duty service.

If you need more power, it may pay you handsomely to have an F-M power engineer study your needs and submit recommendations. No cost, no obligation. Simply write Fairbanks, Morse & Co., Dept. C68, 600 S. Michigan Ave., Chicago. Branches and service stations throughout the United States and Canada.

# FAIRBANKS · MORSE DIESELS

DIESEL ENGINES ELECTRICAL MACHINERY MAGNETOS RAILROAD EQUIPMENT WASHERS-IRONERS STOKERS  
PUMPS MOTORS FAIRBANKS SCALES WATER SYSTEMS FARM EQUIPMENT AIR CONDITIONERS

# New PRODUCTS • IDEAS

## PORTABLE OZONE UNIT



■ A portable, automatic unit that produces pure, clear, colorless, tasteless, odorless water without the use of chlorine or other chemicals has been developed by the Technicraft Engineering Company, Los Angeles, California. The unit has a capacity in excess of 1200 gallons per hour and can be installed on any tank or water storage container. For field use a 250-gallon canvas bag is used. Power is supplied from 110-volt, 50-60 cycle outlet or by a portable gasoline-electric generator. Operation is entirely electrical. No chlorine or other chemicals now restricted for military requirements are needed.

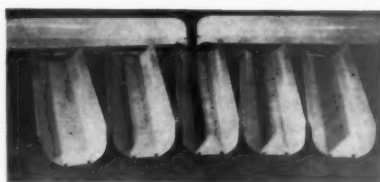
The sterilizing agent employed is ozone generated by the silent electrical discharge maintained at 11,000 volts. Injected directly into the water passing through the unit, the ozone completely oxidizes bacterial contamination and produces pure, clear, colorless, odorless, tasteless water. Sterozone treatment of water will remove objectionable tastes and odors produced by overtreatment of chlorine.

Because of the simplicity and efficiency of the unit, it has wide and varied applications wherever pure water requirements are maintained. In swimming pools the advantages of ozone purified water are the freedom from irritation to the eyes, nose and throat,

lack of odor, suppression of algae and continuous aeration of the water. For steamships it can be installed directly in the ship's scuttle-butt to supply palatable water for drinking. For military uses the unit is of great value to troops in the field to supply pure drinking water from almost any source.

It is ideally suited for water purification on farms, ranches, construction camps and all rural localities. Breweries, dairies, foundries, bottling plants and all process industries which must have purified water can be supplied.

## FLUORESCENT REFLECTOR TROUGHS



■ Victory-bent war industries demand high efficiency and reduction of spoilage and rejects. These vital factories, offices, shops and "black-out" plants recognize the importance of good illumination to eliminate harsh shadows, erase eye-strain and boost morale. Fluorescent lighting accomplishes all this because it is glareless and well diffused. Since 1937 more and more industries have been finding fluorescent lighting fixtures excellent investments. A parallel trend can be seen in the increased use of porcelain enameled reflectors. Owing to their high reflective value, large numbers of porcelain enameled reflector troughs fabricated from Armco enameling iron are being made by such concerns as The Ingram-Richardson Manufacturing Company of Beaver Falls, Pennsylvania. The smooth surface of these reflectors is unaffected by dirt and can be cleaned readily with a damp cloth.

## INDUSTRIAL BRUSH SPEEDS DEFENSE WORK



■ A new type of Tampico fiber industrial brush, treated by a secret process, has been announced by The Osborn Manufacturing Company, Cleveland, Ohio. It is expected to speed war production in many industries, including automotive, aircraft, shipbuilding and any other requiring brushing equipment to remove burrs, polish or form metal parts, or to finish welded seams.

Used with the proper abrasives, the brush will remove tool marks from aircraft motor parts, such as connecting rods, tappets, cams, etc. Another application of the section is the slight rounding of corners of different motor parts, gear teeth and similar products.

The brush will remove burrs without damage, when used without abrasives, from metals such as aluminum and Al-clad, whereas a wire brush is likely to scratch.

The new brush is of longer life and holds abrasives better. It resists heat and temperature changes more effectively. Individual brushes are widely used in the defense industries and play a vital role in the construction of aircraft, tanks, ships, and other armaments.

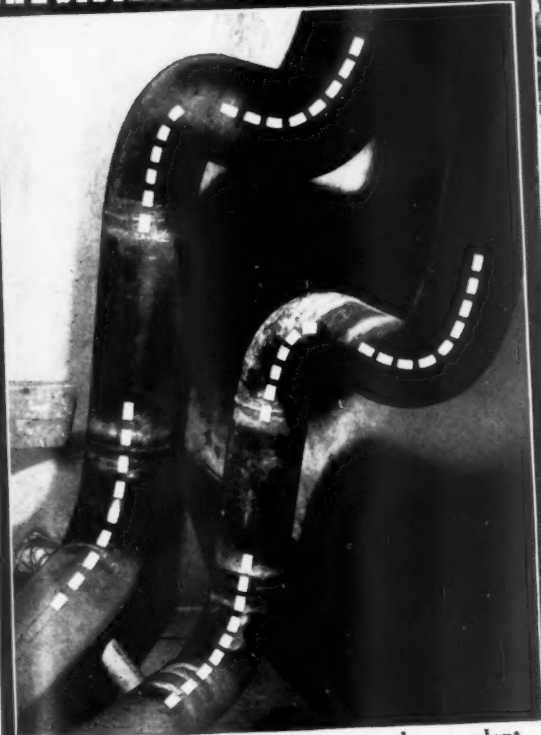
They are available in diameters of 4, 6, 8, 10, 12, 14, 15, and 16 inches.



THE DANGER LIES AT THE  
**TURNS**

Taking the curves **FAST** is  
equally treacherous in piping!

**TUBE-TURN FITTINGS MAKE EVERY  
PIPE SYSTEM STRONGER AND SAFER**



When pipe lines snake their way thru a plant like these chemical lines, forming neat, compact layouts, it's little wonder engineers insist on TUBE-TURN fittings. There are no flanges to tighten, no gaskets to replace—no chance of dangerous leakage. The turns indicated above—where the danger lies—are strong and safe—fully protected with TUBE-TURN welding fittings.



**There's less flow resistance and pressure loss  
when you use Tube-Turn welding fittings**

A flashing glide down the mountain side into a splendidly executed *Kristiana*—a sweeping turn at full speed that scarcely slows the skier! It's the same kind of uninterrupted flow that engineers desire in piping—and TUBE-TURN welding elbows and returns assure minimum resistance, thanks to the easy sweeping radius throughout. TUBE-TURN fittings' smooth inner walls are free from waves, scales or ridges which often accelerate corrosion and erosion. TUBE-TURN fittings give *plus strength* where the danger lies—at the turns—wherever there is a change in flow direction! For safe, trouble-free piping systems, insist on TUBE-TURN welding fittings!

Write today for TUBE-TURN engineering data book and catalog.

TUBE-TURNS, INC., Louisville, Ky. Branch offices: NEW YORK, PHILADELPHIA, CHICAGO, PITTSBURGH, CLEVELAND, TULSA, LOS ANGELES. Distributors everywhere.

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TRADE MARK



*Welding Fittings*





# 24 HOURS of DAYLIGHT



*The*  
**YEAR AROUND**  
*with*

## WHEELER FLUORESCENT LIGHTING UNITS

Wheeler Fluorescent Lighting Units afford almost every industrial plant in the country the opportunity to operate under Daylight working conditions twenty-four hours a day the year around.

No single factor is more important to efficient, sustained production effort than Good Lighting—Lighting that is designed to meet the specific requirements of each individual task or operation; Lighting that helps eliminate accidents, eye strain, fatigue, rejects, slow-downs in production; Lighting that enables workers to see clearly and easily at all hours—day and night.

You can help workers to make new production records by selecting from the complete Wheeler Fluorescent line types of units that meet every lighting requirement.

If you are planning or considering a Fluorescent installation, we will be glad to be of assistance. A complete engineering service is at your disposal.

\* \* \*

For complete data write for a copy of New Bulletin "Wheeler Fluorescent Lighting Equipment".

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Lighting Equipment  
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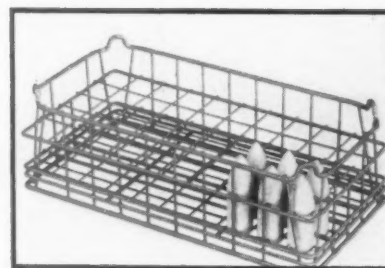
# WHEELER

## REFLECTOR COMPANY

275 CONGRESS ST., BOSTON, MASS.

NEW YORK · CLEVELAND · REPRESENTATIVES IN PRINCIPAL CITIES

### SHOT BASKET



■ A wire basket for handling shot has been developed by Union Steel Products Co., Albion, Mich. These shot are handled in this basket from the rough forging through the various milling processes, the entire basket and shot being dipped in the liquid for degreasing and then the shot being stored in the basket for the two- or three-day aging which is necessary before they can be capped or the casing added.

The basket is made of wire galvanized finish and is so constructed that the shot will not touch each other and the bottom cross wires do not prevent the degreasing liquid from reaching the small indentation in the bottom of the shot.

Special baskets can also be developed for handling shell cases or for almost any other use except springs that is necessary.

### FLOOR MACHINE

■ Faced with the necessity of using alternate metals for aluminum, the G. H. Tennant Company, Minneapolis, Minn., took this opportunity to redesign their various floor machines and incorporate many improved features.

For instance, the Model V, which replaces the well-known Model C, will do all types of floor work efficiently by use of its 8" and 16" attachments. The machine is powered by an electric motor which provides two speeds with proper direction of rotation for sanding, buffing, wax application, polishing and scrubbing.

In addition to its streamline appearance and welded steel construction, the outstanding features of this machine are: high-powered vacuum of new design which operates efficiently in either direction of rotation, and with automatic belt tension adjustment; unique method of applying and polishing wax in one rapid operation; finger-touch regulation of pressure when using hard wax bar; simplicity of belt shift to change speeds for sanding and buffing; adjustable caster which permits leveling of machine if necessary.

Wood, asphalt, tile, linoleum, terrazzo, marble and concrete are covered in their system of floor care. Adoption of this modern dry cleaning method by defense plants has proven the utility of this equipment in congested production areas as well as for office and other heavy traffic floors.

*When writing Wheeler Reflector Company please mention Purchasing*



**Multiply  
by 127,272**

To make the eleven army cots you see here requires 128 feet of steel tubing, 195 feet of angle steel, 1073 feet of spring wire and 1933 feet of galvanized wire - not to mention rivets and other small pieces of steel.

Multiply these figures for 11 men by 127,272 and you have the amount of steel fabricated into beds for our new army of 1,400,000 men - a total of 451 million feet of material - 33,367 tons of steel.

Such an essential item as beds for soldiers is just one of the many defense uses for which much of the regular production of Youngstown mills is going now. This, of course, is in addition to the ever-increasing tonnage of special steels produced for armament.

Day and night, our plants are working to deliver every ton of steel possible.



Youngstown products include  
Pipe and Tubular Products -  
Sheets - Plates - Conduit - Bars -  
Tin Plate - Rods - Wire - Nails -  
Tie Plates and Spikes

**THE  
YOUNGSTOWN  
SHEET AND TUBE COMPANY**

Manufacturers of Carbon, Alloy and Tool Steels

General Offices - YOUNGSTOWN, OHIO

25-27D

*When writing The Youngstown Sheet and Tube Company please mention Purchasing*



## Production pace now needs healthy hands

That's where wash-up strategy comes in. Will your men work *fast* with healthy hands or *half-work* with irritated skin or full-fledged cases of dermatitis? We've all got a war to win!

**LAN-O-KLEEN\*** can help you keep workmen's hands healthy. A corn-meal hand soap *impregnated with lanolin*, it not only removes grime effectively but *work-conditions* the hands it cleans. That is its big *plus value*.

No parching. No invitation to chapping. Lanolin helps the skin stay moist and normally healthy. You can actually see the difference in improved flexibility of fingers no longer stiffened by toughened, taut, over-dry skin.

**LAN-O-KLEEN** in the washroom pays production dividends. Clip the coupon, and let us demonstrate.

\* Trade Mark Reg. U.S. Pat. Off.

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and in Canada*

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Dept. P, 42-16 West Street, Long Island City, N.Y.

Please send me a **SAMPLE QUANTITY** of Lan-O-Kleen with which I will give your claim a practical test. Please include your folder explaining its use.

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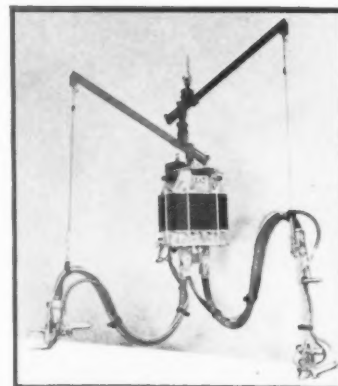
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## SPRINGLESS ADJUSTABLE HANGERS



■ A line of compound springless, adjustable balanced hangers has been introduced by Progressive Welder Company, Detroit, Mich. Of the swiveling type, the hanger permits individual counterbalancing of two separate units, such as welding guns, riveting equipment, and other forms of heavier type "hand" tools.

They are individually adjustable for weights to be counterbalanced. The hangers are available in two sizes, the No. 87DS9 for light and medium duty, and the No. 87DS10 for heavy duty. When used with welding guns, for which the hangers were originally developed, the former will support guns and transformers up to 75 KVA, while the heavy duty type is designed for guns and transformers rated up to 150 KVA.

No special attachments are required to install these hangers. The above photo shows it being used to individually counterbalance a complete dual gun welding installation, including welding transformer.

## STEEL STRAPPING STRETCHER

■ A new type of stretcher for steel strapping, on which the "foot" or base has been eliminated, has been announced by the Signode Steel Strapping Company, Chicago, Ill. The new tensioning tool supplements former designs, making possible the tight binding of non-compressible packages and the proper strapping of those with extremely small surface dimensions.

In almost all stretchers the tensioning mechanism is based upon a foot which in turn rests upon the surface of the package or product being strapped. This provides the necessary frictional contact so that the strap could be stretched or tensioned for proper binding.

Many shipments, however, are made up of solid, non-compressible packages with 90-degree corners which must be strapped so that the utmost of binding tension remains after the stretcher is removed. Other "problem packages" are



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today may save  
your business  
tomorrow...**



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wealth of practical packaging  
information to help you save  
time, save space, save dollars.*



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Under this program, two sections of "The H & D Little Packaging Library" are now ready for distribution. These booklets are full of practical suggestions on how to simplify your shipping, packing and storing, thus conserving time, space and material.

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sealing. "How To Seal" tells you which way is best for your products.

There are a number of tricks to stacking and loading. "How To Stack & Load" gives you many worthwhile suggestions on how to reduce damage, how to save time and money.

Just as the services of H & D Package Engineers are available without obligation—the booklets are yours for the asking. Very likely you will want extra copies for key men in those departments where the information they contain can profitably be employed. Write for copies, they will be sent to you promptly.

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# A One Minute Quiz That May Result in Savings for Your Plant

(and at the same time help to conserve defense materials)

## Q. What is manganese steel?

A. Genuine manganese steel is an alloy of manganese, carbon and iron, containing 10.0 to 16.0% (usually 13.0%) manganese, which is austenitic after heating and quenching. So-called "manganese steels" containing 1.5 to 2.0% manganese do not have the same properties.

## Q. Briefly, what is the history of manganese steel?

A. (a) Discovered by Hadfield in England in 1882. (b) Introduced in America in 1892. (c) First made by Amsco in 1906. (d) First produced in the electric furnace in 1919. (e) Still "The Toughest Steel Known" in 1942.

## Q. What are the physical properties of cast heat-treated standard manganese steel?

A. High tensile strength and ductility, unequalled toughness and work-hardening property. See Page 10 of Amsco Catalog No. 59.

## Q. Is manganese steel hard?

A. Its initial hardness (185-200 Brinell) is little greater than that of ordinary cast steel, but under repeated impact the surface hardness increases immensely, reaching at the point of embrittlement a maximum of 550 Brinell. The surface hardness so obtained is continuously renewed so long as the service continues, while the body metal retains its original toughness.

## Q. Is manganese steel brittle?

A. As cast, before heat treatment, it is as brittle as cast iron, but after heating and quenching it has a greater toughness than any other steel.

## Q. Why is manganese steel tougher than any other steel?

A. The extremely cohesive structure known metallurgically as austenite, acquired from the heating and quenching process, is in manganese steel very strong and ductile, which two properties combined constitute toughness.

## Q. Why is manganese steel so remarkably wear resistant under impact and abrasion?

A. The metal structure becomes increasingly hard and "set" in the areas stressed, in proportion to the repetition and severity of attack. Without such cold-working it is about as abrasion resistant as tool steel or chilled cast iron.

## Q. Why will manganese steel resist shock stresses?

A. Because its high tensile strength and unusual ductility in combination, meaning toughness, enable it adequately to resist shock stresses and yet to yield or deform under heavy impacts rather than to break. Such deformation, however, is not continuous because cold-working raises the yield strength in stressed areas.

## Q. Can manganese steel be welded?

A. For building up to compensate for wear, manganese steel can be welded with nickel-manganese steel welding rod; and for repairing fractures either that rod or stainless steel rod is successfully used. Less

care is necessary, to avoid degradation by extensive overheating, on nickel-manganese steel parent metal than on standard manganese steel. It can be hard-surfaced.

## Q. Can manganese steel be machined?

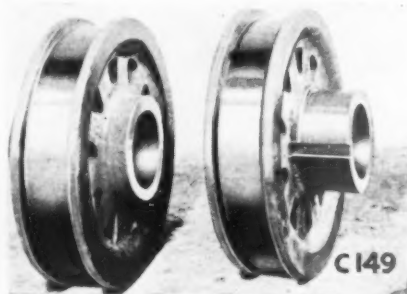
A. Standard manganese steel can be cut with special tool steel or cemented carbide tools, but special technique and equipment are required. Attempting to tool by ordinary methods merely results in work-hardening the steel at the point of contact and wearing out the tool with little result. Practically all machining on manganese steel is done by grinding.

## Q. What special value has manganese steel?

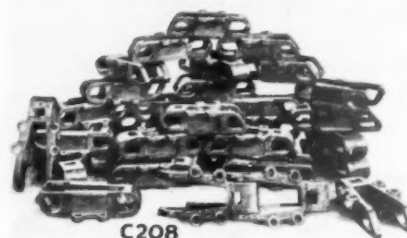
A. Wherever metal is required to combat abrasion associated with heavy repeated impact, standard manganese steel resists breakage much better than ordinary steel and usually has from twice to ten times the wearing life.

## Q. What industries use manganese steel?

A. Among others, cement, clay products, coke and iron, construction, dredging and excavating, foundry, glass, logging, mining, petroleum, quarry, sand pit and steel.



Overhead Crane Wheels of Amsco "Double Wall" Design. (C-149)



C208

Apron Feeder Chain (C-208)—one of many types of impact and abrasion resistant conveying chain Amsco produces for many industries.



C563

Split Sprockets (C-563)—typical of the wheels, gears, pinions, rollers made by Amsco for use where shock, wear or heavy loadings are encountered.

**Amsco**  
AMERICAN MANGANESE STEEL DIVISION  
OF THE AMERICAN BRASS SHOE & FOUNDRY CO.  
Chicago Heights, Illinois

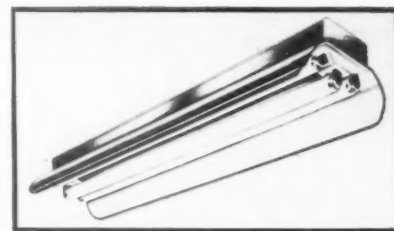
FOUNDRIES AT CHICAGO HEIGHTS, ILL.; NEW CASTLE, DEL.; DENVER, COLO.; OAKLAND, CALIF.;  
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Manganese Steel Castings for shocks and abrasion.  
Chromium-Nickel Alloy Castings for heat and corrosion resistance.  
Power Shovel Dippers. Dredge and Industrial Pumps.  
Welding Materials for reclamation and hard-surfacing.

welding rods, packed in small surfaced boxes; steel coils with narrow-faced sides, small bundles of steel squares, flats, etc. It is for the shippers of such articles that they have developed the new "footless" tools known as "fork type" stretchers. They assure tight strapping without any slack after removal of the stretcher.

Two models are available varying in the size and weight of strap they accommodate.

## FLUORESCENT INDUSTRIAL FIXTURE



■ This fixture is made to accommodate three 48-inch 40-watt fluorescent lamps. The porcelain enamel reflector is made in one piece, finished in one ground coat and two white coats inside, ground coat and one gray coat outside, hood of fixture is finished in light gray baked enamel.

It can be furnished wired or unwired and includes sockets, lamp starters and ballasts. The top is hinged and can be swung open to make all parts easily accessible for replacement or for making wire connections.

The fixture is available for either chain or pipe suspension, but chain or pipe hangers are not included. Over-all dimensions of the fixture are 7¾ inches high, 13½ inches wide, and 52 inches long.

Made by Day-Brite Lighting, Inc., St. Louis, Mo.

## STRIP WELDER

■ An ingenious and low cost installation for welding together ends of strips has been developed by Progressive Welder Company, Detroit, Michigan. It consists of two simple air operated series connected guns for spot welding, a notched bar to locate welds, and a control handle to move the gun along, the entire assembly being supported from an I-beam section above which is located the welding transformer. To weld strips together, the operator moves the gun to the first notch. This trips a switch, causing welds to be made. The gun is pulled along to the second notch, causing another pair of welds to be made, etc., for as many welds as needed for the specific strip width. A button is provided on the control handle to prevent closing of the welding circuit when the gun is returned to starting position.

When writing American Manganese Steel Division please mention Purchasing

# GETTING THE *MOST* FROM YOUR THERMAL INSULATIONS...



NUMBER 2 in a series of messages to American industry devoted to conserving heat, improving operation and increasing production through modern insulation practice.

★ EHRET'S 85% MAGNESIA and other Ehret heat insulating materials are fully treated from the standpoint of characteristics, selection and applica-



tion in a new 176-page Heat Insulation Handbook. It will be sent, without obligation, to anyone interested in getting the most from thermal insulations. Write for your copy of Handbook E 203.

One reason why certain trees have a life span measured in centuries is that they are protected by bark that does not deteriorate with the passing of the years. Similarly, some insulating materials, such as Ehret's 85% Magnesia, have a proven record of long service life and a time-tested ability to maintain initial insulating efficiency.

Under the stress of present day demands on hot piping and equipment, it is all the more important to make certain that you specify only those insulations which have proven performance records.

## ***EHRET*** MAGNESIA MANUFACTURING CO. VALLEY FORGE, PENNA.

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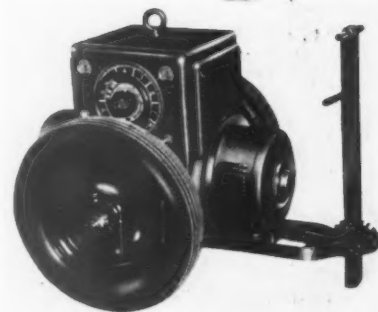
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## TRAILER FOR ELECTRIC WELDER



■ A two-wheeled, lightweight, pneumatic-tired trailer for mounting 200, 300, 400 ampere Hobart electric drive welders is now in regular production at Hobart Brothers Company, Troy, Ohio. Designed for road towing up to 35 miles per hour, this unit will prove very useful for hurry-up trips to different locations for emergency production, maintenance, and repair work. Trailer is so designed that mounting it is accomplished easily by means of three bolts in frame of trailer which register with three poles in the legs of the welding machine. Combination tow bar and standing support has a hand-operated ratchet for locking support arm in position. Unit is easily moved by hand by virtue of its low, underslung construction; narrow tread; and precision method of balancing. This all arc welded steel trailer is capable of trailing over very rough terrain. Measures 54" long, 45" wide, 27" high (over tires); 13" axle center. Tires are 16 x 5.50, 4 ply.

## PRIMARY FUSE CUTOUTS

■ For use on a.c. circuits up to 12,500 volts where fuse requirements do not exceed 50 amperes, a new primary fuse cutout is announced by Westinghouse Electric and Manufacturing Company.

Known as type EA, cutouts are housed with prestite porcelain that has high dielectric properties and is absolutely moisture proof. The door is made of heavy moldarta. All contacts are coated with silver to assure low contact drop, and the fuse tube is made of fibre lined duck micarta that is moisture resisting. The toggle mechanism provides drop-out action of the door to indicate a blown fuse.

Line leads can be inserted easily. Any size stranded wire from the smallest to zero solid or number 1 stranded can be inserted and held by means of two 5/16 screws. Even the smallest sized cable will not spread out and prevent contact.

All live parts are totally enclosed, and the door is easily removed and inserted by means of any standard hookstick. In

When writing D. A. Stuart Oil Co. please mention Purchasing

NOW AVAILABLE...  
 5 NEW STYLES OF FIRTHITE  
 GENERAL PURPOSE TOOLS



Five *new* Tool styles have been added to the FIRTHITE General Purpose Tool line to make a total of 10 styles . . . each in four to ten sizes and four standard grades of FIRTHITE Sintered Carbide.

"G.P." Tools are available *now*... from *stock*. This expanded line includes two new offset designs (in

both right or left hand) and a diamond point style of wide usefulness.

Through these additions, the range of work has been broadened to include almost any turning, facing, boring, chamfering, undercutting, back-squaring, or grooving operation *without tool modification*.

Write for full information.

*Send for this*


This new FIRTHITE General Purpose Tool Price List is just off the press. Send for it today.



**HERC-ALLOY**  
**STEEL CHAIN**  
with  
patented "INSWELL" welds

Short, stubby links  
bridge the corners  
...without gouging  
and bending stress

★ **CM** Herc-Alloy Steel Chain with the exclusive patented "Inswell" welds is proving its superiority in every type of application. Fabricated from a special analysis, heat treated steel, the sturdy short, stubby links bridge square corners (see photograph above) minimizing bending stress and gouging... adding extra chain life and economy even under the most punishing assignments.

 **25%** extra margin of safety and wear

Note the extra "swell" of steel at the weld of Herc-Alloy steel chain. With 25% extra metal at the point where strength is vital, these "Inswell" welded links give extra safety to men and materials... and longer chain life. Specify and insist on Herc-Alloy—it's your assurance of extra dependability, economy and safety.

Whether or not you need chain today... *get the facts.* Complete catalog on request and trained CM engineers are available for consultation. Write:

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*Chain* **CORPORATION**

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fuse replacement this safety feature enables the operation to be made from a safe distance.

The same fuse holder, fuse tube, fuse door, and disconnect blade are used on the 5 kv and 7.5/12.5 kv cutout. Therefore, where both voltage ratings are used a minimum number of parts can be carried.

#### CHIPPER'S GUARD



■ A practical, comfortable, long-wearing guard for chippers has been designated by the Industrial Gloves Company of Danville, Illinois. This safeguard is made of heavy chrome tanned cowhide split leather—will stand the hardest wear. Mitten pattern, open end to admit full use of fingers. Guard reinforced where wear comes on palm and back with extra leather patch—insulated against heat with wool heat-breaker. Back of thumb reinforced with extra leather. Can be worn over glove or bare hand. Supplied as pairs, all lefts, rights or any combination of lefts and rights as needed at no additional cost. Double sewed throughout for extra wear.

#### INDUSTRIAL BLACKOUT PAINT

■ For plant windows in areas where blackouts have been ordered, the Sherwin-Williams Company, Cleveland, Ohio, has developed a blackout paint which meets requirements of the Office of Civilian Defense and which is said to give excellent results in opacity, weather-resistance and non-reflective properties, when used on either the inside or outside of the glass. The material is supplied in one-gallon and five-gallon containers and can be applied by brush as it comes from the can and by spray when reduced  $\frac{1}{3}$  with petroleum thinners.

The first coat in window blackout work should be white or a light color to increase reflection of interior illumination. The finish coat of blackout paint dries to a dull finish which prevents exterior lights from reflecting on large window areas.

When writing Columbus-McKinnon Chain Corporation please mention Purchasing



# YES...! IN EVERY INDUSTRY LUBRIPLATE SPEEDS DEFENSE



On land—on sea—in the air—in every phase of industry vital to defense, LUBRIPLATE lubricants are doing jobs that are nothing short of amazing. From a smear on the worm screw of the naval officer's binoculars to a ton of LUBRIPLATE in the dredge underwater gear case—against friction and wear—thwarting rust and corrosion—conserving bearings and parts—LUBRIPLATE carries on.

In spite of heat and high water—tractors and trucks rolling through muck and mud—spotless food packing machines constantly washed with scalding water—textile spindles whirling faster than ever before—marine equipment exposed to highly corrosive sea-water and spray—LUBRIPLATE lubricants perform under conditions that would stop ordinary lubricants cold.

## LUBRIPLATE DIVISION FISKE BROTHERS REFINING COMPANY

SINCE 1870

Newark, N. J.

Toledo, Ohio

DEALERS FROM COAST TO COAST

# LUBRIPLATE

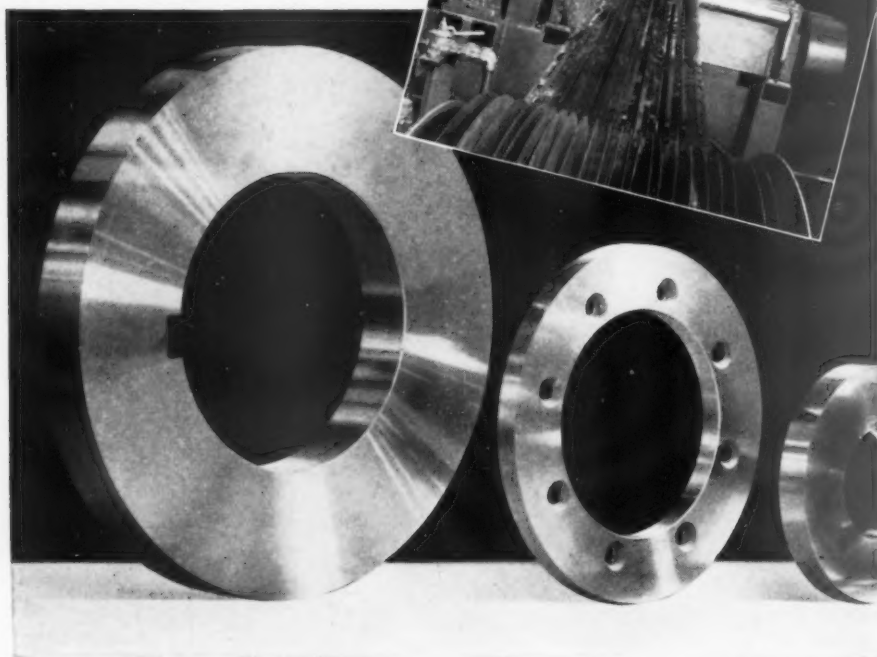
THE MODERN LUBRICANT that Arrests Progressive wear



*"It's the Film"*

*When writing Lubriplate Division, Fiske Brothers Refining Company please mention Purchasing*

# Cut Time and Set-Ups with long-lived **SIMONDS** Rotary Shears



**FOR CUTTING THIN METAL,** Simonds Rotary Forged Shear Blades are tops in long service, accuracy and output. These blades are forged before heat-treating, to add toughness which means long-

er service between grinds... and that saves important set-up time. Simonds grinding methods permit exceptionally close tolerance, plus or minus .00025". Write for details on these quality cutting tools.

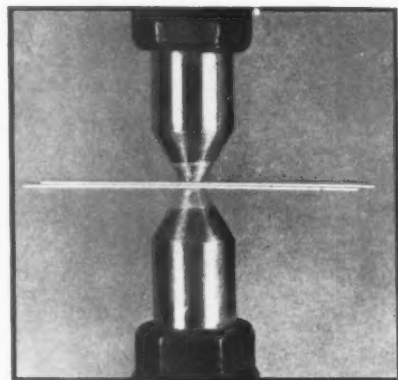
# SIMONDS

*Family of Metal-Cutting Tools*

**SIMONDS SAW AND STEEL COMPANY, 470 MAIN STREET, FITCHBURG, MASS.**

*When writing Simonds Saw and Steel Company please mention Purchasing*

## ELECTRODES FOR SPOT WELDING



■ **Designed specifically** to reduce pick-up and increase resistance to mushrooming, two major problems in the spot welding of aluminum, a line of special electrodes is now available from Progressive Welder Company, Detroit, Mich.

The electrodes are fitted with inserted tips of a special alloy having several times the resistance to mushrooming and pick-up of conventional electrode materials. The tips may be secured in virtually any type of standard or special electrode shape desired.

## PORTABLE DYNAMIC BALANCING UNIT

■ **To reduce harmful vibration and undesirable noise** in rotating machines assembled by mass production methods, a portable dynamic balancing unit is announced by Westinghouse Electric and Manufacturing Company.

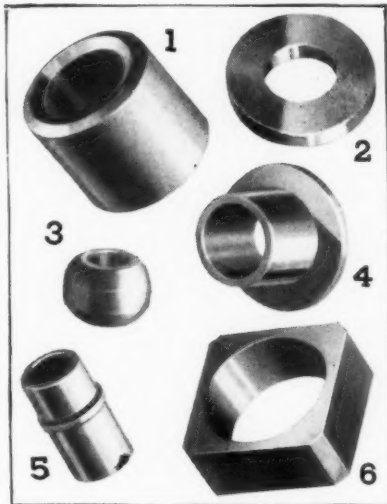
Known as type HQ, the unit consists of a sensitive wattmeter assembly, a sine wave generator, a velocity type vibration pickup and necessary connecting cords. The apparatus may be used over a speed range of from 600 to 10,000 r.p.m. and by an auxiliary attachment, the range may be extended down to 100 r.p.m.

The pickup produces a voltage whose amplitude is proportional to the vibration being measured and has a fixed phase angle relationship with the vibration for a fixed frequency. The sine wave generator produces an adjustable phase sine wave current supply whose frequency coincides with the r.p.m. of the machine being balanced. Its field is a two-pole rotating magnet directly coupled to the machine rotor. The stator, adjustable angularly by hand, has two windings 90° apart electrically that facilitate angle and amount observation. Metering unit consists essentially of a specially designed double scale, highly damped dynamometer type wattmeter, calibrated in arbitrary units.

To balance a rotating machine the two-pole sine wave movable-stator generator is coupled to the shaft of the

rotor to be balanced. The pickup is held against some part of the frame and produces a voltage whose amplitude is proportional to the vibration to be measured. The voltage generated in the pickup coil varies directly as the frequency and amplitude of the vibrations being measured. Amplitude and vibration phase angle are indicated on the watt-meter.

#### POROUS IRON BEARINGS



Standard shapes of Selflube porous iron bearings: (1) sleeve or plain cylindrical bearings, (2) washer or thrust bearing, (3) spherical or self-aligning bearing, (4) flanged bearing. Examples of special shapes are shown at (5) and (6).

■ The Keystone Carbon Co., Inc., St. Marys, Pa., announces the addition of porous iron bearings to their line of self-lubricating bronze bearings. The porous iron bearings are stronger than porous bronze bearings, and they are interchangeable with porous bronze bearings in most applications. They were introduced to conserve copper and were perfected after years of research work in the company's laboratories.

These bearings are made from powdered iron, which is moulded to size in the shape desired, then baked, and finally saturated with a good grade of oil. They have an average porosity of 25 to 35%, enabling them to store a large amount of oil which forms a protective, continuous oil film on the bearing surface. In many instances, this oil reserve lasts the entire life of the application, eliminating the use of oil vents or grease cups. Additional lubrication is recommended for heavy duty or continuous operating units.

They have a low friction coefficient which, together with their self-lubricating qualities, prevents excessive temperature, speed reduction, noise and scoring of shaft. As in the case of their porous bronze bearings, they are moulded to close dimensional tolerances so that no re-designing or special engineering is required. They are supplied in both standard and special shapes, as shown in the accompanying illustration.

## TEMPERATURES ARE HIGH... SO IT'S ROEBLING *Varnished Cambric* CABLE



Whenever heat is a factor on your power, heating and lighting circuits specify a Roebling Varnished Cambric Insulated Cable.

Operating temperature can safely go as high as 85°C., for example, on lines up to 5000 volts. And because only the finest grade of black asphalt tape is used—higher dielectric strength and low power factor are obtained.

**ABOVE GROUND**—If excessive moisture is encountered, cable should be lead encased or enclosed in an extra heavy reinforced rubber sheath. For normal installations a braided covering is satisfactory, the type of finish depending upon service conditions.

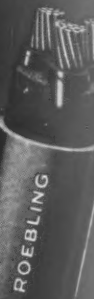
**UNDER GROUND**—Must be lead sheathed. If buried directly in the ground or installed in mine shafts, steel tape armor is usually added over the lead sheath. In a bore hole, vertical riser or submarine cable, round wire armor may be necessary.

Single or multiple construction—furnished in all sizes of conductors from 2,000,000 circular mils to 14 AWG in single conductor or 750,000 circular mils to 14 AWG in multiple conductor. Thickness of insulation and test requirements are in accordance with Insulated Power Cable Engineers Association specifications.

#### OVER 60 OTHER TYPES

of Roebling Electrical Wires and Cables are made in our mills under complete Roebling supervision and inspection—from copper bar to final reeling or spooling. They include: Power Cables, Weatherproof Wire, Bare Wire and Strand, Building Wire, Portable Cords and many others.

THREE CONDUCTOR



SINGLE CONDUCTOR



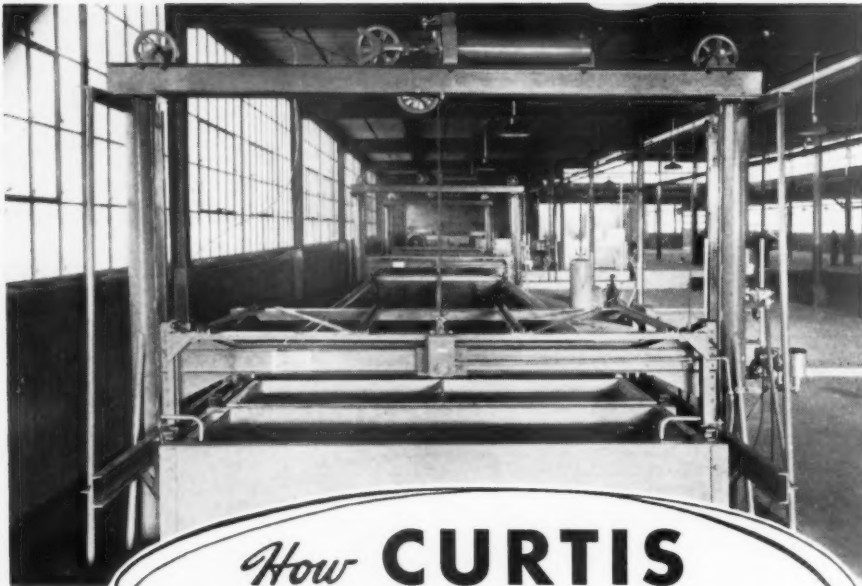
### JOHN A. ROEBLING'S SONS COMPANY

TRENTON, NEW JERSEY

Branches in Principal Cities

When writing John A. Roebling's Sons Company please mention Purchasing





## How **CURTIS** **AIR CYLINDERS** Speed High-Production Finishing of Die Castings

★ Thanks to an ingenious application of several Curtis Air Cylinders, the automatic copper and nickel plating equipment of the Gerity-Adrian Manufacturing Corporation can now handle 270 racks of work per hour through five separate units.

Curtis Air Cylinders provide automatic transfer of work racks between the cleaning, plating, and rinsing units of the installation, which was installed by Crown Rheostat and Supply Company, Chicago. Each transfer unit is controlled by two Curtis Air Cylinders, one operating the lift mechanism vertically and the other operating the horizontal or transverse motion of the frame.

The installation eliminates lengthy drive shafts, affords any desired time cycle for the various steps in the transfer, and allows rearrangement of the entire sequence of operations at will. It greatly simplifies previous arrangements and has materially speeded up the production of finishing huge volumes of die castings.

Curtis Air Cylinders will perform almost any pushing, pulling, or lifting operation. They cannot be damaged by overloading and are immune from abuse. They provide exceptionally accurate control; easily operated by unskilled labor.

Hundreds of industrial plants are saving time and money, speeding up production, with Curtis Air Cylinders. Write for free booklet, "How Air Is Being Used in Your Industry," and full information on Curtis air operated equipment.

# CURTIS

ST. LOUIS • NEW YORK  
CHICAGO • PORTLAND  
SAN FRANCISCO

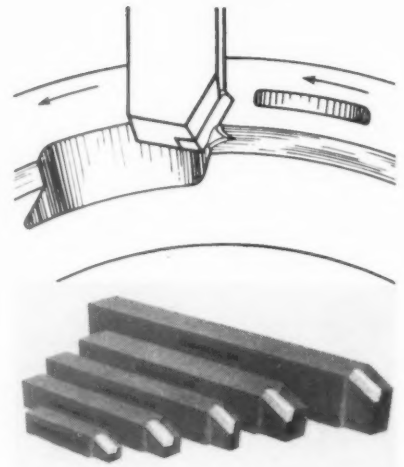
CURTIS PNEUMATIC MACHINERY DIVISION  
OF CURTIS MANUFACTURING COMPANY  
1908 Kienlen Avenue, St. Louis, Mo.

Please send me your free booklet "How Air Is Being Used in Your Industry" and further details concerning Curtis Air Hoists.

Name.....  
Firm.....  
Address.....  
City.....State.....

When writing Curtis Manufacturing Company please mention Purchasing

## CUTTING TOOLS



■ The McKenna Metals Company, Latrobe, Pa., announces new styles of Kennametal-tipped tools especially designed for interrupted cutting of steel castings and forgings in lathes, boring mills, shapers, and planers. They are designed to speed up production in machining armor plate, tank parts, and other irregular shapes of steel castings and forgings. It has been found that these tools with the unique negative shear angle of 35 degrees combined with a positive side rake of 15 degrees (see illustration) will permit the same economy in machining irregular sections as has been realized hitherto in simpler jobs cut with Kennametal.

The principle of these tools, known as Kennametal styles 35, 36, 37, and 38, is that the interruption on the work first strikes the tool at a place back of the extreme point, where the cutting edge is mechanically strong, and then shears off the chip with a progressive action (see illustration). These tools are made in opposite hands. The tips are longer than on other standard Kennametal tools to compensate for the foreshortening of the 35° shear angle; they project above the shank at the back to allow sufficient steel under the point.

## FLUORESCENT STARTER

■ A new line of fluorescent lamp starters, designed to protect ballast and starter and to eliminate the flashing of failed lamps, is announced by Hygrade Sylvania Corporation, Salem, Mass.

Automatically opening the circuit when a lamp fails, the Premium Mirastats are especially suitable for installations that make immediate replacement of a burned-out lamp impractical.

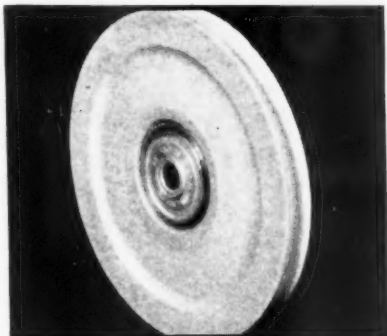
Flashing on and off, a lamp that has failed may eventually ruin an ordinary starter. This starter not only protects itself, prevents abuse of the ballast and effects a substantial saving of power, but also does away with the usual annoying flashing of the burned-out lamp.

# Engineered Specialties

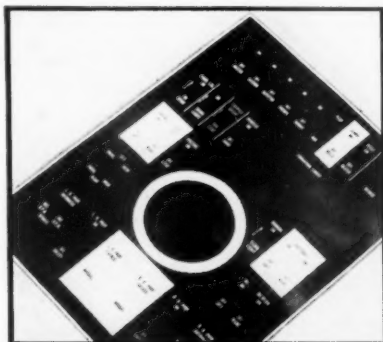
## IN LAMINATED PLASTICS



Colorful, chemically inert, spot-proof and cigarette-proof table tops developed by Formica and now widely used in restaurants and public rooms everywhere — including industrial restaurants.



Formica control pulleys now produced by the hundreds of thousands and used on all leading American makes of airplanes.



Instrument panels with fluorescent markings which are brilliantly legible in the dark interior of a fighting airplane's cabin when illuminated by black light.

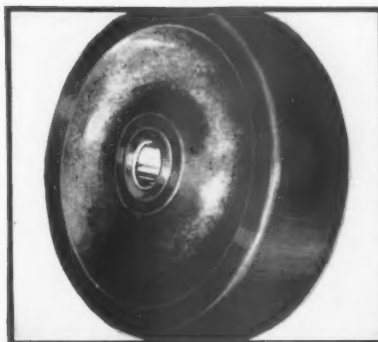
**F**ORMICA has always aimed at building a large percentage of its business on special products for the development of which much research and engineering work has been necessary. For that purpose it has a large and competent engineering force which has been successful in producing many new products—products for which laminated phenolic material had not been previously used.

We illustrate a few of them here: table tops, airplane pulleys, instrument panels with fluorescent markings, grounded static-proof truck-tires, slitting discs for rayon manufacture. These are representative of several hundred similar items.

Formica is always searching for more opportunities to develop new products that fall within the limits of the material with which it works. The Formica engineering department will be glad to cooperate if you have a need for something that might be developed and will gladly give you an opinion as to applicability of the material for your purposes.

**The Formica Insulation Company**  
4640 Spring Grove Avenue, Cincinnati, Ohio

# FORMICA



A Formica truck tire which will not strike sparks mechanically and is so grounded that a static potential may not be built up which would cause a spark. Used where explosives of any kind are handled.



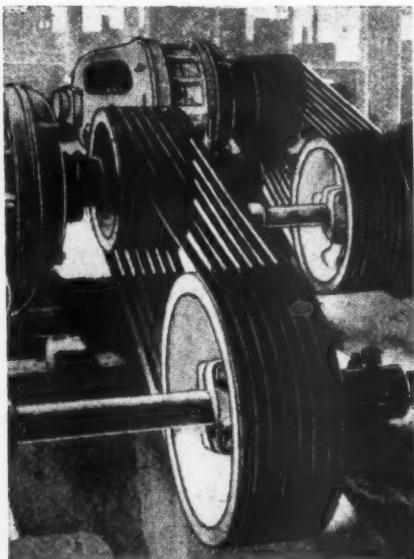
A slitting disc used in rayon manufacture and developed to emphasize resistance to alkalis. Formica parts of rayon equipment last months where material formerly used lasted weeks.

*When writing The Formica Insulation Company please mention Purchasing*



WITH TOUGH **BLACK** JACKETS

## 4 REASONS for SPECIFYING CABLE-CORES



A Typical Cable-Core Installation

### 1—Black Jackets are Tougher

New, groove-gripping unit jackets of special flexible fabric filled with tough, live black rubber. Transmit maximum power from and to the sheaves. Give "All-Out" defense protection to the vital working parts within.

### 2—"Neutralized" Cable-Cores Defy Hard Work

Parallel "Cable-Core" construction places load carrying cable-like cords in the neutral section where deteriorating "flexations" are at an absolute minimum. "Cable-Cores" are composed of powerful fiber strands, specially woven and prestretched, then impregnated and imbedded in selected cool-running, slow-aging rubber compound. A 100% Tough Construction.

### 3—Built-In, Uniform Flexibility

Stretch-taking section above "Cable-Cores" is made of special extensible rubber compounds. Compression section below "Cable-Cores" is constructed to resist "crimpage" when belts are flexed around pulleys. All sections are consolidated into one balanced unit that will give you "POWER TRAVEL AT REDUCED RATES" — economical, trouble-free operation for top speed production.

### 4—Tailored to the Grooves

Belts are cured in precision molds to produce exact cross sections that will fit true in the sheave grooves. This positive "groove-gripping" is far more important than matched length if matched belts are to pull together.

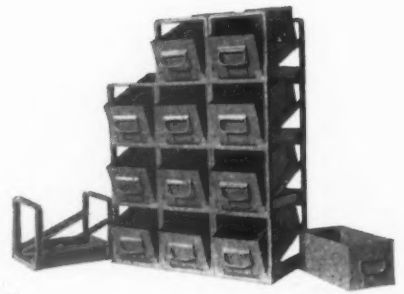
THE **MEDART** CO.

MANUFACTURING ENGINEERS of ALL TRANSMISSION EQUIPMENT

3500 DE KALB STREET • ST. LOUIS, MISSOURI



## SLANT-BOX RACK



■ A new type of rack has been announced by the Stackbin Corp., Providence, R. I., which is designed to store ordinary shop boxes at an angle effectively converting them into hopper-fronted storage bins and automatically feeds contents toward the front. Slant-box racks are individual racks of welded steel construction which interlock to form storage units of any desired shape or capacity.

Contents of boxes are always visible and instantly accessible. Tilted runners hold boxes at the proper angle; a wide lip keeps them held securely in position. The construction permits high stacking in interlocking units which form a storage rack of any desired height, shape or capacity.

Made entirely of heavy angle and channel steel, with all joints welded, they make rigid, permanent storage facilities, which can be changed or added to as conditions demand.

## CAMOUFLAGE PAINT

■ The development of a complete line of "blackout and camouflage" paints to meet the current war emergency has been announced by the Paint Division of the Pittsburgh Plate Glass Company, Pittsburgh, Pa.

The paints are designed for domestic and commercial use in areas subject to possible air raids. They obscure interior illumination when applied to windows, skylights, and other glazed openings.

The blackout and camouflage paints have been developed in four principal colors, black, smoke grey, earth drab, and neutral brick. By using the color that more nearly blends with the surrounding exterior building or terrain, a partial camouflage is effected in daytime in addition to providing blackout protection during the night. In cases where a complete blackout is desired the outside of the window is covered with one coat of blackout paint and the inside with a standard interior paint.

Because of the danger of glass breakage because of absorption of sun radiation by painted glass, the following recommendations have been made: (1) The entire pane of glass should be cov-

When writing The Medart Co. please mention Purchasing



# ATKINS

## *Curled-Chip Teeth*

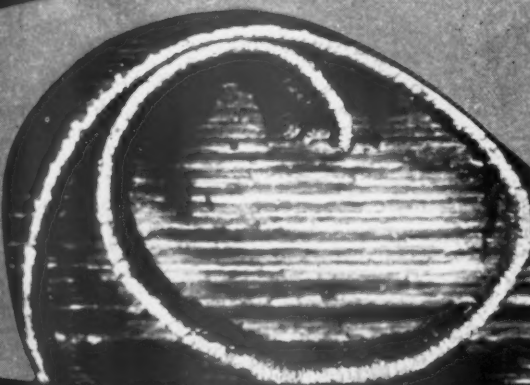
WITH LATHE TOOL CUTTING QUALITIES

### SHOCK TROOPS In the Battle for Production

● Thrown into battle on the important metal cutting sector of the industrial battle front, Atkins Curled-Chip Saws go through metal faster, stay in the fight longer with less frequent relief than others heretofore available. All this results primarily from their new tooth design—one that adapts the scientific cutting principle of lathe cutting tools to metal saws—one that removes metal in continuous chips jumping clear like lively clocksprings.

To help industry achieve and maintain peak efficiency on metal cutting work, Atkins offers the experience of over 8 decades of saw engineering to users of metal cutting saws. Call on our engineering department for close co-operation in getting the right saw on every job.

11-TIME ENLARGEMENT of Atkins Curled-Chip Powersaw Blade in action. Note how tooth removes material in a "curled-chip." Curled-Chip Teeth are available on Powersaw Blades, Circular Metal Milling Saws, Segmental Cold Saws, and Metal Cutting Bands.



When writing E. C. Atkins and Company please mention Purchasing

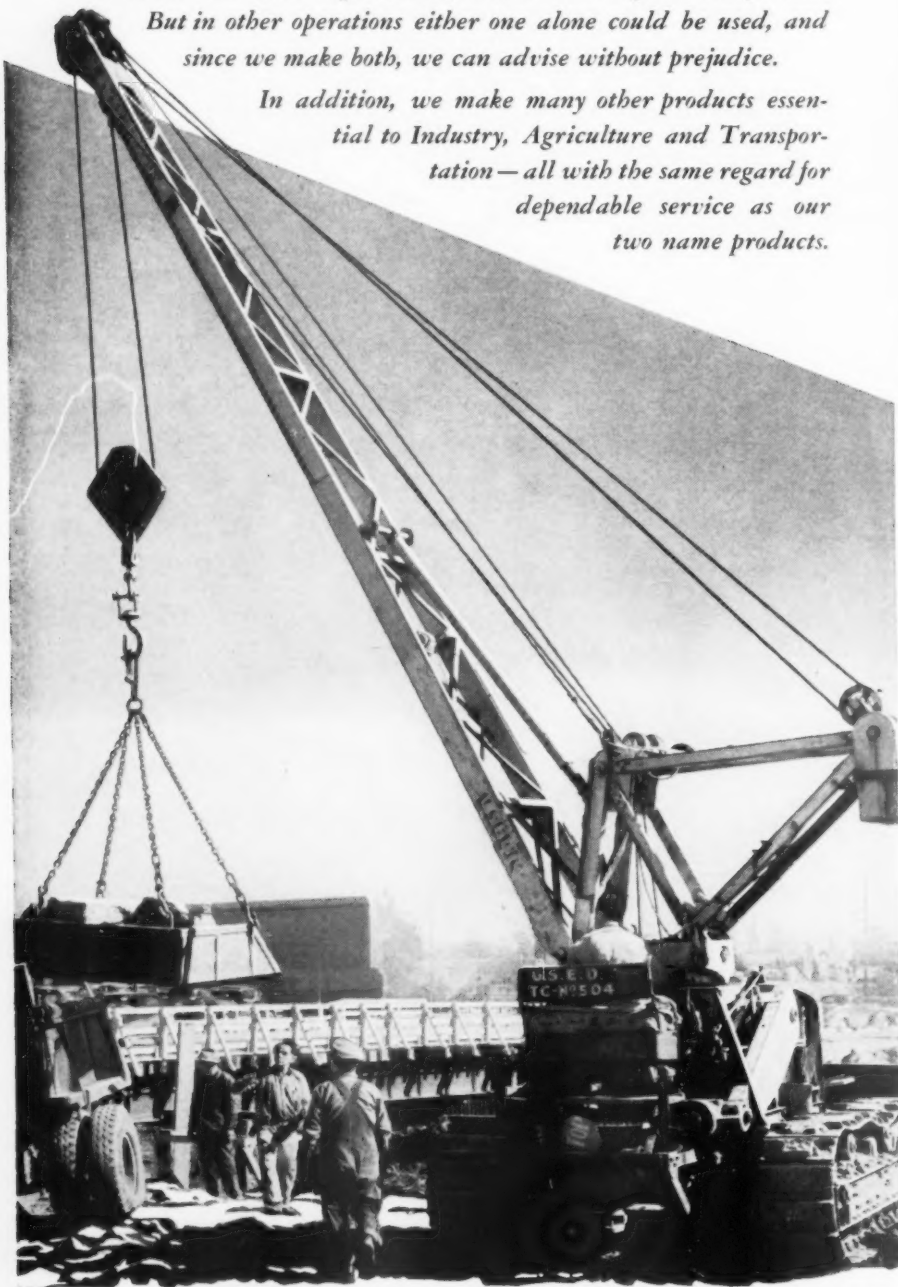
## American Chain and Cable Unite to Serve Industry

★ *To help win the war in the least time, to crush the enemy in an avalanche of mechanized units, American industry must select the most effective product for each operation.*

*This principle explains why so many industrialists turn to the American Chain & Cable Company, Inc. for their chain and cable requirements. Both these products are essential wherever work requires lifting, hauling or holding. For example, in the operation illustrated below, both chain and wire rope (cable) are used to lift a heavy load.*

*But in other operations either one alone could be used, and since we make both, we can advise without prejudice.*

*In addition, we make many other products essential to Industry, Agriculture and Transportation—all with the same regard for dependable service as our two name products.*



## AMERICAN CHAIN & CABLE COMPANY, INC. • BRIDGEPORT, CONNECTICUT

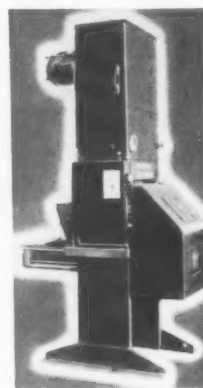
*In Canada—Dominion Chain Company, Ltd. • In England—The Parsons Chain Company, Ltd., and British Wire Products, Ltd.  
American Chain, American Cable Wire Rope and Aircraft Controls, Campbell Cutting Machines,  
Ford Chain Blocks, Hazard Wire Rope, Manley Garage Equipment, Owen Springs, Page Fence  
and Welding Wire, Reading Castings, Reading-Pratt & Cady Valves, Wright Hoists and Cranes*

*When writing American Chain & Cable Company, Inc. please mention Purchasing*

ered. (2) Only one coat of paint should be used on the exterior. (3) A black paint gives the greatest opacity but also shows the greatest heat absorption. Whenever possible, particularly on southern exposures, more neutral colors should be used. (4) The danger of breakage is minimized when paint is applied to glass areas of four square feet or less.

### COMPRESSION MOLDING MACHINE

■ An improved 75-ton, fully automatic compression molding machine, developed by The Watson-Stillman Co., Roselle,



N. J., affords faster molding of plastic products than was hitherto possible with a machine of this capacity. An additional improvement is that all settings for time periods, materials, quantities and pressures can be made independently and easily from a single control panel.

With a 10" stroke, the unit has an approach speed of 210" per minute, pressing 3.3" per minute, return 140" per minute. Die space is 18" x 18"; maximum height of each die half, 8". The machine has bottom and top ejectors and is suitable for all materials adapted to compression molding. It is operated by a 5 hp. pump. Floor space required is 6' x 3', height 10'4".

A hydraulically operated feeder puts predetermined amounts of material in each mold cavity. Molds are closed under low pressure, and high pressure is applied automatically at a predetermined time. Molds can be degassed if necessary. Pieces are then stripped and blown down a chute to an automatic piece weighing scale. An alarm rings if any work fails to strip off. 25, 50 and 100-ton machines are also available.

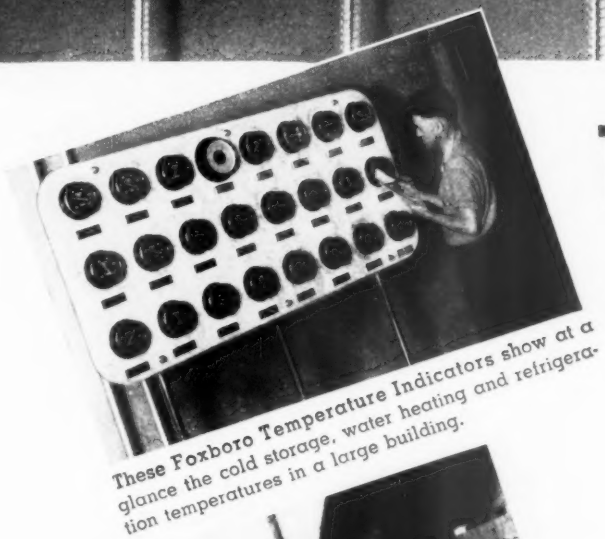
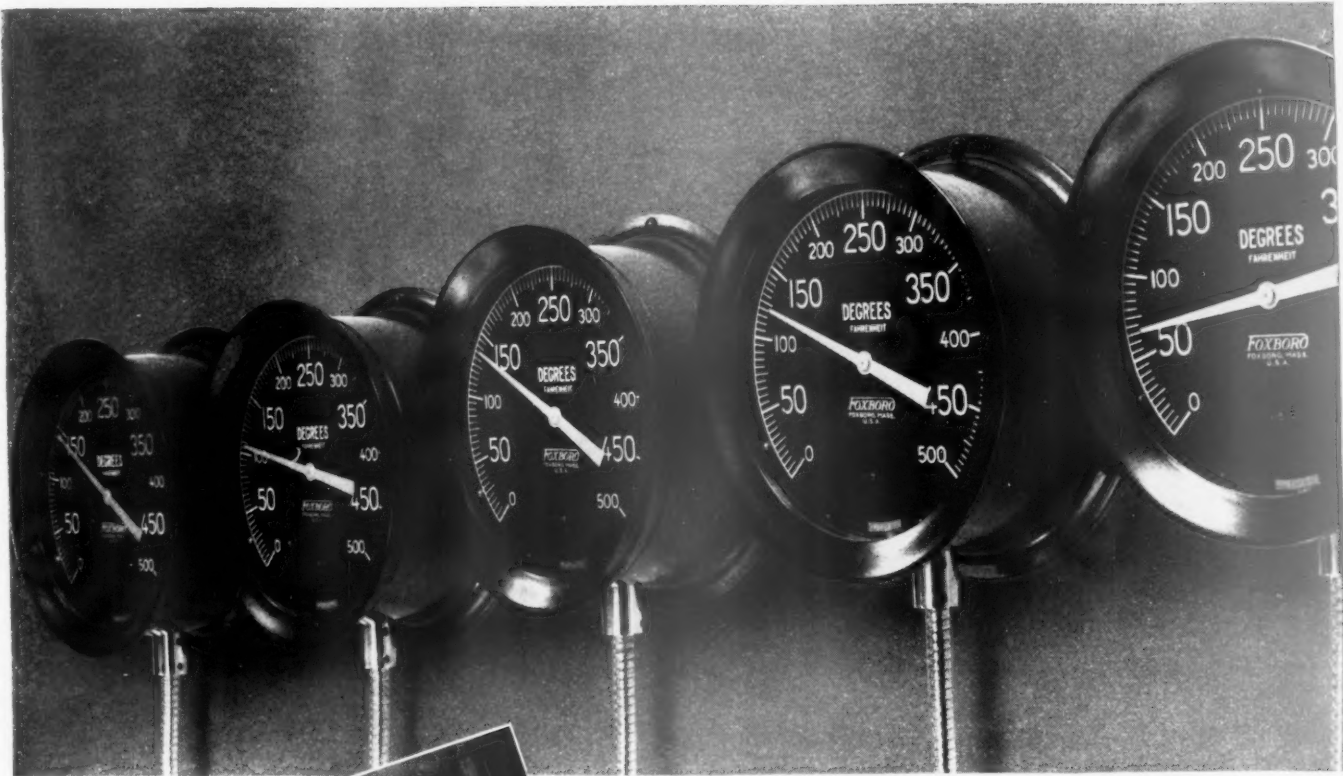
### BRACKET FOR MIXER

■ The Eclipse Air Brush Co., Newark, N. J., has announced the addition of two V-shaped brackets to hold its direct drive air motored agitators. These brackets are made in two sizes: to fit thirty- and fifty-gallon drums.

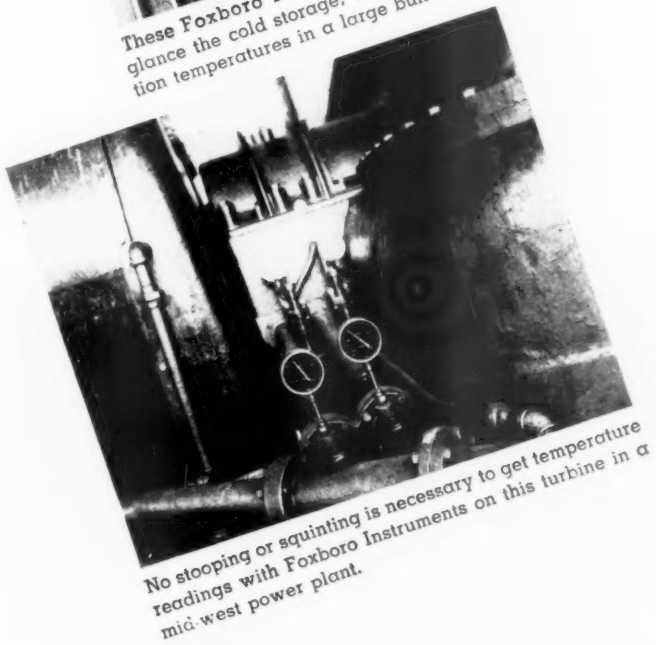
There is a screw clamp at the side of the bracket to allow for variations in the size of the drums, and to insure steadiness of the Pneumix agitator. The mixer can be adjusted to any angle.

The use of the Pneumix with the new holder does not in any way change the spark-free operation of the mixer which retains all its properties of variable speeds, light weight, quiet, splash-free performance.





These Foxboro Temperature Indicators show at a glance the cold storage, water heating and refrigeration temperatures in a large building.



No stooping or squinting is necessary to get temperature readings with Foxboro Instruments on this turbine in a mid-west power plant.

## They almost SHOUT the temperature!

Important temperatures practically *can't* be overlooked, with Foxboro Temperature Indicators on the "hot spots" of your processes or equipment. These sturdy instruments bring the readings right before your eyes . . . prevent spoilage of precious materials, and safeguard vital equipment!

Foxboro Temperature Indicators can be located in any convenient place up to 200 feet from the bulb. And the clear-cut figures on their airplane-type dials give instant, accurate readings 20 feet away.

Yet easy visibility isn't the only advantage of these accurate instruments. At no higher purchase price, Foxboro Temperature Indicators provide all-metal construction that insures life-time service without maintenance. Write for detailed Bulletin 148-6. The Foxboro Company, 178 Neponset Ave., Foxboro, Mass., U. S. A. Branches in principal cities of United States and Canada.

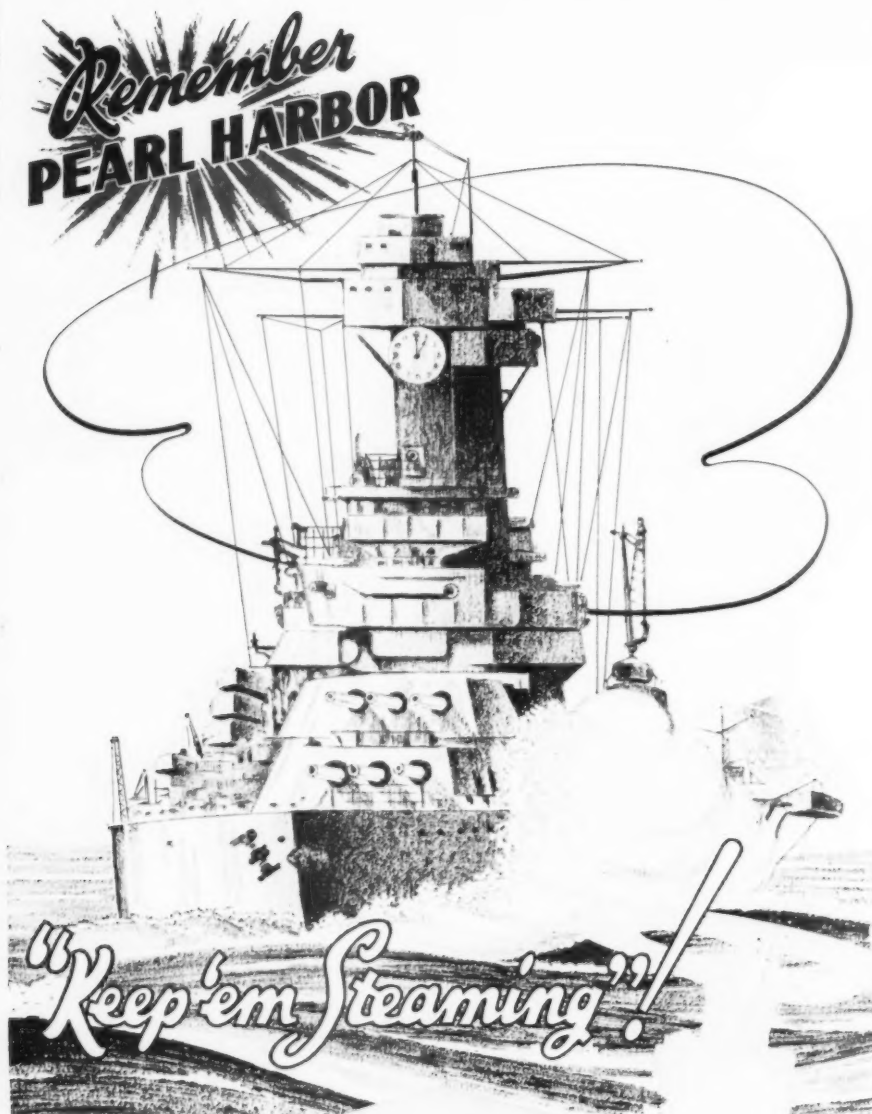
TEMPERATURE INDICATORS BY

**FOXBORO**

Reg. U. S. Pat. Off.

*When writing The Foxboro Company please mention Purchasing*



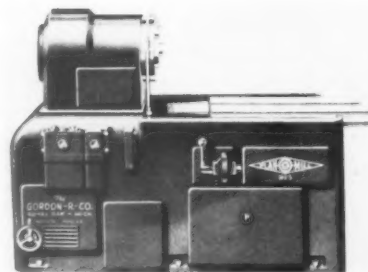


# LUNKENHEIMER VALVES

**Are Helping to Build Battleships**

ESTABLISHED 1862  
**THE LUNKENHEIMER CO.**  
 "QUALITY"  
 CINCINNATI, OHIO, U. S. A.  
 NEW YORK CHICAGO  
 BOSTON PHILADELPHIA  
 EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

## THREAD AND FORM MILLING MACHINE



■ **Combining** for the first time the recognized advantages of planetary milling with the flexibility of hydraulic operation, the Gordon-R Company, Royal Oak, Mich., makers of Plan-O-Mill, have produced a new and larger machine, the Number 5 Hydraulic Plan-O-Mill.

Hydraulic motors on the spindle and quills permit the operator a choice of feeds and speeds by merely adjusting dials. No gears or sheaves need to be changed, the only other adjustment necessary being the lead screw on the spindle. The table is also hydraulically operated.

The machine combines extreme flexibility with the utmost precision—meeting tolerances to .001" with a minimum of worry and attention. It is especially adapted to thread-milling and form-milling operations requiring a high degree of precision, yet where the type of work may change from time to time.

All motion is in the cutting head. The part itself is rigidly held by its fixture. Large, irregularly shaped parts are accommodated as easily as small ones. Parts ranging from 3/4" diameter to 20" diameter, inside and outside, are handled. Because the cutter returns to center at the end of each operation, a number of successive operations—such as threading followed by concentric counterboring—may be performed in a single work cycle.

Clockwise or counter-clockwise rotation of the cutting head is controlled by a switch of the valve control.

Selector switch permits machine to be operated manually when automatic cycle of operation is not desired. Feed cycle ranges from 1 1/2 minutes to 8 minutes per cycle, rapid return, regardless of time in cut.

## TIME RELAYS

■ **The time relays**, Types RSIC and TDIC, manufactured by R. W. Cramer Co., Inc., Centerbrook, Conn., are synchronous motor operated timers which either keep an electrical circuit closed for a present time interval, or in the case of the TDIC, can be used as time delay relays which when energized keep a circuit open for a selected interval. These timers have an instantaneous reset feature and

*When writing The Lunkenheimer Co. please mention Purchasing*



Service for customers was kept constantly in mind when the building above was designed for the Kingsport Electric Co., Inc., at Kingsport, Tenn. Its arrangement now helps speed cooperation on war projects. Industrial apparatus and wiring supplies are specialized in together with lamps and fans. At top: J. B. Carson, president of the Company at quotation desk.

Ways to help customers are studied at Allentown, Pa., General Electric Supply Corporation meetings. Above Gordon Woll, sales manager holding a Fiberduct underfloor wiring demonstrator is reviewing advantages of Fiberduct for factory underfloor electric distribution. Salesmen, left to right, H. J. Wetteran; Mr. Woll, H. A. Parsons, Jr., H. H. Kelly, R. K. Buchert.



C. P. Guercio, shipping clerk, General Electric Supply Corporation, New York City is shown here checking requirements for next truck deliveries. Storage, handling and delivery methods are designed to give customers the best possible service.



J. Albert Hayden, (left) salesman for the Raub Supply Co., Harrisburg, Pa., is here bringing information on G-E wire for industrial lighting to H. J. Hunter, estimator for the Howard P. Foley Co., Harrisburg electrical contractor.



# Look to G-E WIRING MATERIALS DISTRIBUTORS For Wiring Supplies to Aid War Production

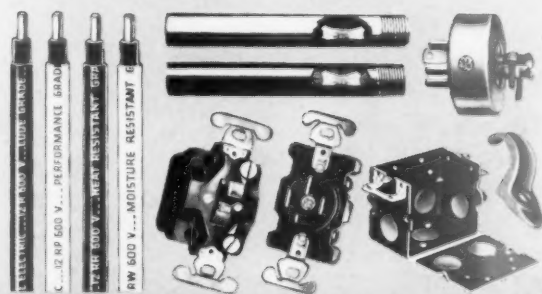
G-E Wiring Materials Distributors are eager to help you keep your plant geared for the utmost war assistance. Now, as never before, electrical power must flow to industrial equipment without interruption.

Ask a representative of the G-E Distributor in your territory about materials that will be ideally fitted to your needs. His experience will enable him to help you solve wiring problems and make selections of materials.

Good service is aided by the bigness of the G-E line. It contains 5 different conduits, 4 different types of building wire and hundreds of wiring devices and boxes and fittings. It is the only complete line on the market. Your G-E Wiring Materials Distributor can provide suitable electrical supplies to help speed your plant's war production.

## FOR G-E WIRING MATERIALS

See your G-E Wiring Materials Distributor about conduit, wire and cable and wiring devices. He is eager to serve you.



# GENERAL ELECTRIC

When writing General Electric please mention Purchasing



# Keep YOUR PLANT OPERATING while laying *Carey Elastite* INDUSTRIAL ★ FLOORING

**This Modern, HEAVY-DUTY Flooring meets Demand for ALL-OUT Economical Production**

To speed production—get rid of rough, dangerous, energy-wasting floors—surface them with CAREY ELASTITE Industrial Flooring. Lay it during week-ends; use it immediately. Prevent shutdowns; save time.

Smooth and resilient under foot, CAREY ELASTITE increases workers' efficiency. A printing concern found, that since application of this flooring, two men easily move a 4,000 lb. skid of paper which previously required four to five men for the job.

CAREY ELASTITE Industrial Flooring is TOUGH, long-wearing, non-skid, dustless; lessens accidents and breakage of trucks and tools. It is fire-resistant; practically noiseless under steel-wheel traffic. Its favorable first cost, long service and low maintenance, reduce floor overhead.

**THE PHILIP CAREY  
MANUFACTURING CO.**  
Lockland, Cincinnati, Ohio

Dependable Products Since 1873

IN CANADA: THE PHILIP CAREY COMPANY, LTD.

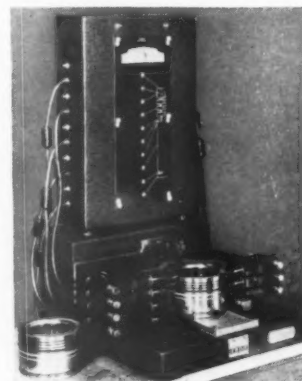
Office and Factory: LENNOXVILLE, P. Q.

If you have a floor problem, don't experiment. Solve it with CAREY ELASTITE Industrial Flooring. Write today for folder giving full details. Address Dept.

when restarted they repeat the timing without manual resetting. They can be used for every kind of machinery or industrial process which must be time controlled or for electrical circuits where a time delay action is required.

They have been developed particularly for industrial applications which require frequent operations with utmost reliability. Accurately machined and adjusted parts are used in all essential assemblies. In spite of the exceptional compactness, these timers are quite sturdy and wear resisting.

## AIRCRAFT PISTON CHECK



■ The Sheffield Corporation of Dayton, Ohio, has developed a Multicheck for checking simultaneously ten dimensions of an aircraft piston. This gage, greatly increasing the speed and economy of piston inspection, has ten gaging heads, three of which are in the back of the gage.

The front gaging units check the following seven diameters: two minor diameters of oil ring grooves; O.D. at bottom skirt; O. D. of piston; O. D. at upper oil ring grooves; O. D. above compression ring grooves; and O. D. at compression ring grooves.

The three gaging heads in the rear check the width of compression ring grooves. Each of these three gaging units has a wedge-shaped gaging point, which is inserted into one of the grooves. The distance of insertion determines the width of the groove.

Each of the gaging units operates independently, and has its own signal light on the panel. When a light shows red, its gaging unit has designated that a certain dimension is undersize; when it shows green, the dimension is oversize; and when amber, it is within tolerance. All of the independent signal lights are connected to a master light on the top of the panel. When any one signal light shows a violated dimension, the master light goes red; when all of the lights are amber, the master light stays off. The operator, therefore, has only to watch one light—the master light.

The operator places the piston on the loading rails, and pushes it between two guide anvils into the multi-gaging

*When writing The Philip Carey Manufacturing Co. please mention Purchasing*



# Control



American industry is geared up to the final test which will determine whether or not men, living under a government of their own making, can out-produce the slaves of the Dictator States. So gigantic an undertaking, to be successful, demands Control, sure—precise—unfailing. Control of the efforts of men, Control of the power that drives the machines and last, but not least, Control of the liquids and gases that play so important a part in the processes of modern production.

It is to this phase of Industrial Control that Powell engineers have long devoted their time, their exceptional skill and their years of experience. During this period they have created and put into use a vast array of valves, each one especially designed to perform some specific type of Control. These constitute the Powell Line as it exists today. Tomorrow there will be others, for every day there are new problems of Control which Powell Engineers are called upon to solve.

Thus it is that to the leaders of industry the name Powell represents a service rather than a product. Thus it is that the Powell organization recognizes and assumes the responsibility for the solution of such problems of Industrial Control as must inevitably appear in the great test of industrial strength and skill which war has demanded of our country.

The valve illustrated is Fig. 190—Iron Body, Bronze Mounted, Screwed End Globe Valve for 150 pounds pressure. Sizes  $\frac{1}{4}$ " to 3". Also available in Angle Pattern and with Flanged Ends. It is equipped with ground, union-joint bonnet and renewable "Powellium" nickel-bronze seat and disc.

**The Wm. Powell Company**  
Cincinnati, Ohio



# POWELL VALVES

*When writing The Wm. Powell Company please mention Purchasing*

## SERVING THE NATIONAL *Victory* PROGRAM



Socket  
Head  
Stripper  
Bolt



THE HOLO-KROME SCREW CORP., HARTFORD, CONN., U.S.A.

units. The arms and mounting brackets of the gaging units have a Pantrate finish and the points have carbonyl inserts. As in other multichecks, this one is set by high and low masters.

Multichecks for checking magazine fuses, fuse percussion caps, primer heads, and numerous size shells and cartridge cases have also been developed.

### STRAINERS FOR PUMPS



■ **Supplementing** their regular line of pumps and accessories, the Blackmer Pump Company, Grand Rapids, Michigan, has put on the market a series of strainers for pipe sizes from 1 to 6 inches, which incorporate in their design a number of improvements over the conventional type of strainer.

While they were designed primarily for use with their rotary pumps, they are just as well suited to applications with all types of pumps, or wherever a strainer is required in a piping layout.

The basic design follows that of the standard "basket type strainer." The bodies are made of iron as standard, and are available in bronze. Steam-jacketed bodies can also be furnished. The baskets are made of steel or brass woven wire cloth in fine, medium or coarse mesh, and are well reinforced. A convenient handle is provided for removing the basket from the strainer body for cleaning. The body cover is held in place by special thumb screws, no wrench being needed to remove it for cleaning.

These strainers are rated on a basis of flow in GPM and are furnished in five sizes from 50 GPM to 700 GPM. The 50 GPM strainer has tapped connections; the larger sizes have flanged connections. All are made in several standard sizes. Companion flanges are furnished with all flange-connected strainers.

The net straining area equals the highest Hydraulic Institute recommendations on the fine mesh basket and exceeds them on medium and coarse mesh by seven and ten times respectively. The standard constructions are suitable for operating pressures up to 50 psi. and for temperatures up to 275° F. Strainers for higher pressures and temperature can be furnished on special order.

When writing The Holo-Krome Screw Corp. please mention Purchasing



## TO GIVE YOU BETTER SPRINGS *Quicker*

**T**HIS girl and her fellow workers at Accurate are "stepping on it" in more ways than one—crowding their machines to produce springs and more springs. It's like that all through the Accurate plant—the only restraining influence on speed is our exacting inspection. We will not push production to a point where it is necessary to sacrifice accuracy and quality.

Here you can be sure of painstaking attention to every requirement of your

order—design, materials and delivery! Yes, sir, our motto is: "step on it" to give you better springs, quicker. Let's talk it over.



**ACCURATE SPRING MFG. CO., 3825 West Lake St., Chicago, Ill.**

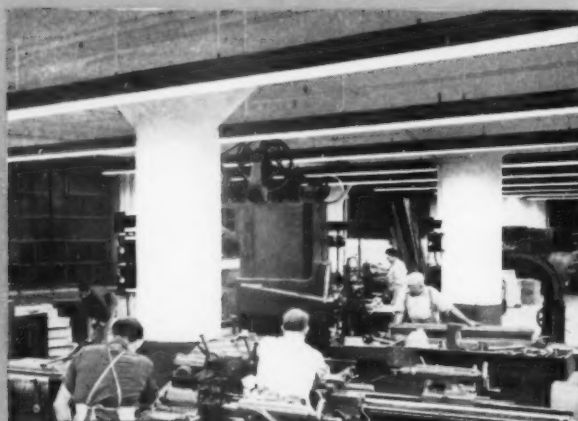
*When writing Accurate Spring Mfg. Co. please mention Purchasing*



# Take the headaches out of Fluorescent Lamp replacements



## Westinghouse MAZDA FLUORESCENT LAMPS



To save time and trouble in fluorescent lamp purchases, standardize on top-quality Westinghouse Mazda Fluorescent Lamps. Westinghouse skill in lamp design and manufacturing is gained through 55 continuous years of making fine electrical products. This accumulated experience, together with famed Westinghouse Research, is responsible for many of the developments that make today's fluorescent lamp so amazingly efficient and economical.

You are always sure of fluorescent lighting at peak efficiency and dependability when you standardize on Westinghouse Mazda Fluorescent Lamps.

*When writing Westinghouse Electric and Manufacturing Company please mention Purchasing*



### Here's the easy way to solve your fluorescent lamp replacement problem

Available to you are liberal, money-saving discounts on quantity purchases of Westinghouse Mazda Fluorescent Lamps. Your Westinghouse Mazda Lamp Distributor will be glad to discuss with you these discount schedules and arrange the most economical purchase plan for you.

You'll find too, that your Westinghouse Mazda Distributor is prepared to give you the best de-

livery possible on all sizes, colors, and wattages of Westinghouse Mazda Fluorescent Lamps. In addition, he is prepared to furnish expert advice on planning new lighting installations and how to get the most light out of your present lighting system. Westinghouse Electric and Manufacturing Company, Lamp Division, Bloomfield, New Jersey.

*For More Top-Quality Lighting Installations—*  
**Westinghouse MAZDA FLUORESCENT LAMPS**

*When writing Westinghouse Electric and Manufacturing Company please mention Purchasing*

*"... a growingly important tool"  
 "... now ranks as a major item"*

Because of today's rapid changes in manufacture and personnel, many Purchasing and Production Departments may only now have been confronted with Coated Abrasives as so important a technical tool.

Sanding and finishing metal parts with our "Metalite" Cloth, supplied in sheets, rolls, belts, discs, cones and dozen upon dozen of "specialties"—little shapes for reaming out oil lines, changing sharp edges to perfect radii and smoothing almost inaccessible places where nothing else would work—give but a hint of their possibilities.

We offer without any obligation the services of Trained Field Engineers. They are thoroughly equipped to recommend for any job mechanical short-cuts with the best coated abrasive out of our thousands of varieties, whether for metal, wood, plastic, or other composition.

*Why not see the very latest mechanical applications? The sooner you get in touch with our nearest branch, the sooner you start saving time and money.*

## BEHR-MANNING

(DIVISION OF NORTON COMPANY)

TROY, N. Y.

*Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Grand Rapids,  
 High Point, Indianapolis, Los Angeles, New York, Philadelphia,  
 St. Louis, San Francisco, Tacoma*



**RELIABLE COATED ABRASIVES**  
**SINCE 1872**

## PLASTIC GLOVES



■ **Safeguarding** productive hands in all types of defense work has become increasingly vital. So that serious hand injuries from caustics, acids, solvents, oils, etc., can be kept at a minimum, The Surety Rubber Co., Carrollton, Ohio, has introduced the exclusive "Surescal" industrial glove line. These gloves are produced from a new synthetic plastic material that has sufficient elasticity to give ample flexibility and comfortable finger freedom. The transparent material is also applied as a bonded coating to various styles of fabric and leather work-gloves in this line and is available in aprons and finger-cots. The material is inert, non-toxic, odorless and tasteless. Aging, sunlight, ultra-violet light, acids, alkalis, alcohols, ketones, esters, aromatic hydrocarbons, aliphatic hydrocarbons and mineral, animal and vegetable oils that usually attack and destroy natural rubber and other substitute materials have little or no effect on these gloves. Resistance to abrasion and tearing is particularly good in comparison tests. One of the important major aviation plants testing the gloves reports over three months' service of daily use—formerly maximum service life of other gloves tried was three days.

## CONVERTIBLE ACID PUMP

■ **A new series** of corrosion-resisting pumps in which it is possible to get 480 combinations of alloys, types and sizes with heads and capacities to meet practically any requirements is manufactured by The Duriron Company, Inc., Dayton, Ohio.

They have a convertible feature said to be obtainable only in these pumps. "Durcopumps" that are made in the high-silicon irons, Duriron and Durichlor, can be converted to stainless steel pumps simply by substituting only the wet-end parts. The exchange can be made without disturbing the setting of the pump.

This convertible feature is especially valuable where there is apt to be changes in the liquids handled. For instance; a Durcopump of Duriron for unloading acid tank cars can be converted to stain-

*When writing Behr-Manning please mention Purchasing*



## "The Navy gave them to us for Production Excellence"



### They're owned by 7000 people who pulled together, working hard

"Out there on the Roebling staff you see two emblems. The top one, bearing the crossed cannons, is the Naval Ordnance flag. And below that is a pennant, "E" ... the United States Navy's flag of Excellence. The Navy "E" is something to be strived for—at sea, in peacetime, officers and men must work all year to reach the standard of excellence that bestows an "E" on a stack, for engineering; on a turret, for gunnery; on a radio shack, for communications. Ashore, it's given with the Ordnance flag for another kind of excellence—the kind you get from seven thousand heads and fourteen thousand hands that Roebling stands for ... Production Excellence.



When the Navy gave these flags to Roebling, they also pinned an "E" on every man-jack of the Roebling crew. You'll see it proudly worn by the men

who are today filling your wire rope needs. They're working with the pride and satisfaction of master-craftsmen, knowing they have pleased one of the world's most demanding customers, just as they'll please you.



The men who man the open hearths are putting something extra into every melt of Roebling "Blue Center" Steel. Something they gained the day they got their "E", when they watched these same hearths swallow a fragment of enemy bomb from the hand of a Naval officer, to be returned with interest to those who menace American liberty.



You'll get that "something extra" if you're in the Navy, using Roebling Wire

Rope for any one of its multitude of shipboard purposes, such as the slings that hoist a plane aboard its mother ship.

You'll get it also if you're buying Roebling "Blue Center" for any of the vital industrial uses that must go night and day, non-stop ... for logging camps, for mines or elevators, for plant hoists or oil well drilling lines. You'll get it every time you use the Roebling trade-mark as your buying guide."



Roebling Research, plant facilities; Roebling Quality Control and Engineering ... for years they've been putting extras into "Blue Center" Wire Rope. Extras that you need today, wherever wire rope has a dependable, long-lived job to do.

JOHN A. ROEBLING'S SONS COMPANY  
TRENTON, NEW JERSEY

Branches and Warehouses in Principal Cities



THAT'S THE ONLY WAY TO MAKE

# ROEBLING

## "Blue Center"

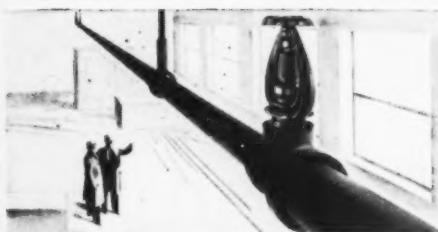
STEEL WIRE ROPE  
PREFORMED OR NON-PREFORMED

*When writing John A. Roebling's Sons Company please mention Purchasing*

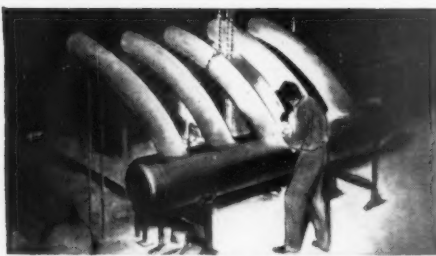
# 5 Proved Time-Savers for ALL-OUT PRODUCTION



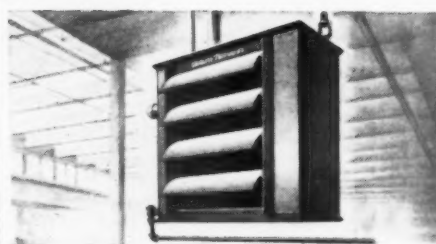
IF ALL OUT PRODUCTION means expansion or reconditioning of your plant, Grinnell can probably save you valuable construction time or help you maintain uninterrupted production, through these 5 services. . .



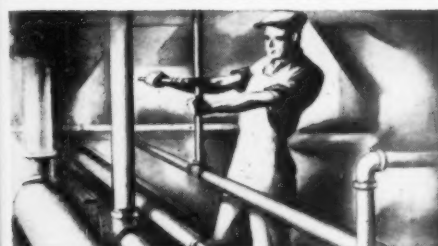
1—Grinnell Automatic Sprinklers, installed with minimum disruption, guard against time and material loss by fire.



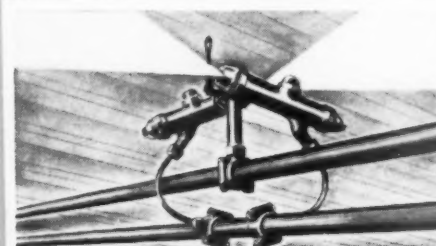
2—Grinnell Prefabricated Piping saves construction time.



3—Grinnell Thermoliers provide efficient, uniform heating—help speed output.



4—Grinnell Pipe Fittings for stronger, tighter pipe connections, minimize repairs and delays.



5—Amco Humidification Systems help textile mills speed production of uniforms and defense fabrics.

## ONE OF THESE PLANTS OR OFFICES IS NEAR YOU . . .

Grinnell Company, Inc. • Grinnell Company of the Pacific • Grinnell Company of Canada, Ltd. • General Fire Extinguisher Company • American Moistening Company • Columbia Malleable Castings Corporation • The Ontario Malleable Iron Company, Ltd.

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WARREN, OHIO

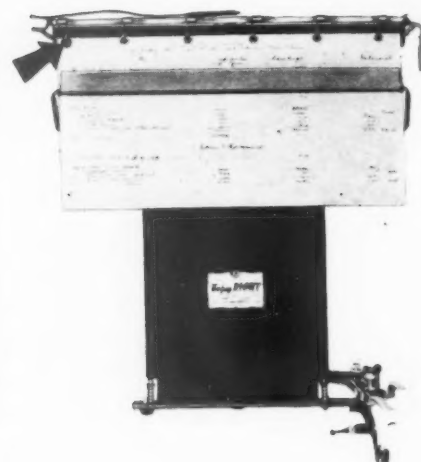
**Important!**—To save valuable time, please send in your priority certificates with your orders.

**GRINNELL**  
WHENEVER PIPING IS USED FOR DEFENSE

less steel to pump caustics. This is an additional advantage during the present emergency when delivery on new equipment is apt to be delayed.

Other features include the interchangeability of newly designed open and closed impellers with negative pressure on the stuffing box; oversize ball bearings throughout, and micro-adjustment of the impeller to obtain maximum efficiency.

## COPY HOLDER



■ The arrow in the illustration points out the Pilot-Anchor now included on 20" and wider CopyRIGHT (line by line) notebook and copy-work holders.

By anchoring the left end of wide and flimsy sheets, both hands are free to guide papers into desired position all the way across under the exclusive "Equi-Pressure Paper Grip" with convenient pressure control handle at right.

The newest copyholder retains its most distinguishing feature—the tiltable paper-holding plate. One need not have mastered the art of operating a typewriter to recognize the outstanding advantage and convenience of leaning notes or "copy" material either forward or backward to improve lighting or to suit such natural front-vision reading angle as may suit the stenographer or typist. Thus easy insertion of material and perfect "forward" visibility enables the typist to concentrate on control of the typewriter keys . . . and this cannot fail to produce faster and more accurate work. A good deal of the pressure can be taken off harassed secretaries and limited stenographic staffs by the introduction of this modern device.

It is made in six different model sizes to accommodate "copy" up to an extreme width of 12", 16", 20", 25", 30" and 36". They are listed in the Government General Schedule of Supplies under Item 54-H-1842 through 54-H-1847.

The manufacturers, Copy Right Mfg. Corp., New York, N. Y., invite Purchasing Agents and other office people to accept a free trial of a CopyRIGHT of any size required without obligation.



The Republic Distributor Emblem identifies the members of a nationwide system of such establishments, serving the industry of every section of the country as exclusive outlet for Republic Rubber Products. Their local stocks and service facilities, supplemented by the complete cooperation of the factory, offer an unparalleled source of satisfaction on needs for this type of equipment.

## MECHANICAL RUBBER

### **M** *In Essential Industries*

MANY of the almost unnumbered industrial applications of Mechanical Rubber are found at work in the nation's shipyards . . . on the job for Uncle Sam . . . serving essential functions that make shipbuilding operations go faster, better. So with Steel Mills, Railroads, Mines, Quarries, Oil Fields, Metal Fabrication Plants and practically every industry - Mechanical Rubber Belting and Hose are depended upon for vital services of some form or other.

Republic, for over forty years, has been devoted exclusively to the manufacture of Rubber Products for industrial use. Thus is Republic today a major contributor to the needs of industries engaged in the war production program. REPUBLIC RUBBER DIVISION OF LEE RUBBER AND TIRE CORP., YOUNGSTOWN, OHIO.

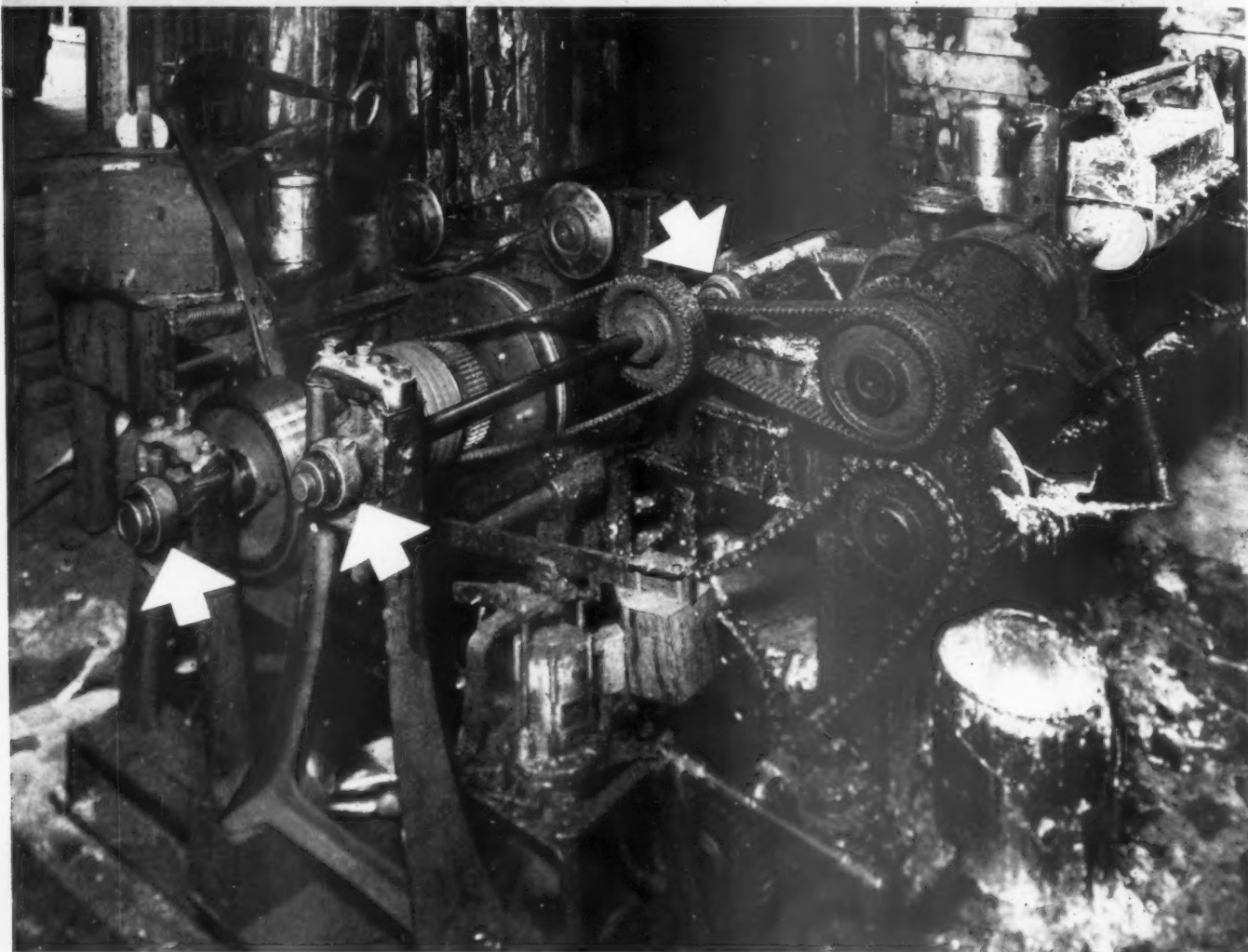
# REPUBLIC RUBBER



HOSE • BELTING • MOLDED GOODS  
PACKING • EXTRUDED PRODUCTS



## Through HIGH SPEEDS and FLYING TAR!



**O**UT of this maze of rollers, shafts and gears come rolls of fireproof roofing paper — the rate of output is amazing! Known as a "rewinder", it takes the big rolls off the impregnating machines and rewinds them into smaller commercial rolls. Built from the ground up, *right on the spot*, it is truly a wonderful example of Yankee ingenuity — and the adaptability of Fafnir Ball Bearings.

Fitted cleverly into the design of the machine, two Fafnir Ball Bearing Hanger Boxes support one end of the main shafts. Fafnir Pillow Blocks support the other ends. These Fafnirs have been on the job for more than 8 years — running smoothly and trouble-free in veritable clouds of flying tar and gummy lint. The master mechanic says, "All the care they need is an occasional greasing!"

Tough operating conditions hold no terrors for Fafnirs. Wherever the job calls for extra stamina,

extra service, you'll find a Fafnir Ball Bearing Unit that will fit the most exacting requirements. Fafnirs alone offer the Wide Inner Ring Ball Bearing and Self-Locking Collar that simplify and speed installations. Only Fafnirs have Balanced Design — larger balls, deeper races — that means longer bearing life. The Fafnir Bearing Company, New Britain, Conn.

# FAFNIR

## Ball Bearings

THE BALANCED LINE —  
MOST COMPLETE IN AMERICA

*When writing The Fafnir Bearing Company please mention Purchasing*

## PNEUMATIC DIE CUSHION



■ **The Dayton Rogers** Manufacturing Company, Minneapolis, Minnesota, announces a new Model DB universal pneumatic die cushion adaptable to a large percentage of press operation where cushioning means is required for drawing and forming operations. It readily replaces springs and rubbers commonly used on all forming and drawing dies and is a complete, self-contained unit that automatically maintains a predetermined cushioning pressure on either the draw ring or pressure pad at all times. This pressure pad control is made possible by a combination regulator and gauge furnished with each installation and makes fullest use of the operator's skill in the production of all drawn and formed parts. A record is kept of the pressure by means of the pressure gauge and on future setups this working pressure is quickly duplicated.

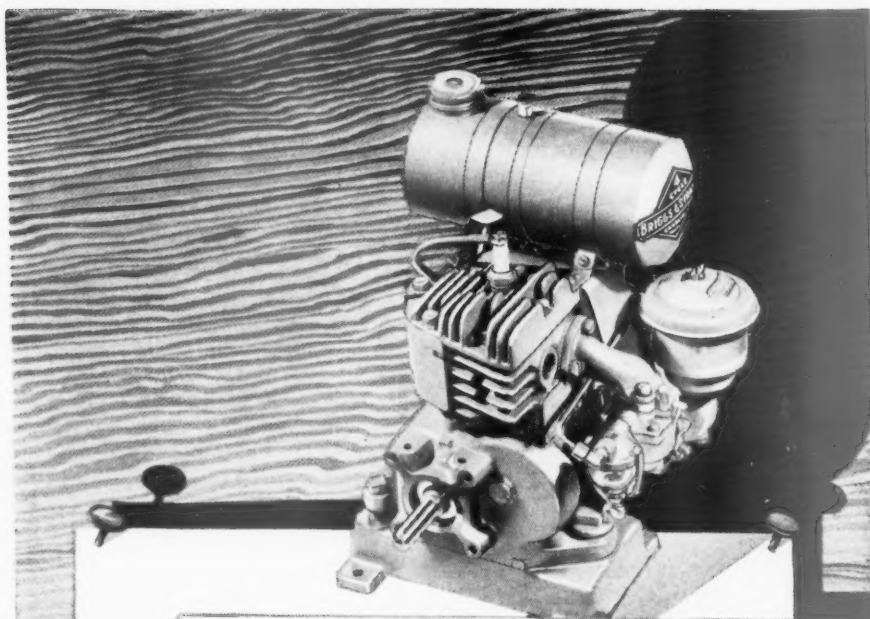
Each cushion can be supplied with a special pin pressure pad to take advantage of the entire pin area available in connection with the maximum press bed opening. The die cushion can be mounted to the bolster plate by drilling and tapping four holes for the mounting studs. The lubricating of the cushion units is done from the front of the cushion cylinder. They are now made in sizes from 6" to 20", having a maximum drawing capacity of 10", and having ring holding pressures up to and including 15 tons. No surge tanks are necessary for standard drawing operations.

## PHOSPHORESCENT PAINT

■ **Called** "The Paint of 1,001 Uses"—the new Lumi-Tone phosphorescent paint placed on the market by the General Luminescent Corporation of Chicago, Ill., is already being called into service for use as a blackout paint. (Markers outside of bomb shelters, for example.)

It has been found that in the course of total blackout, only objects coated with phosphorescent chemicals can be seen in total darkness. It will not only help keep industrial plants operating during blackouts, but can serve innumerable other purposes as well.

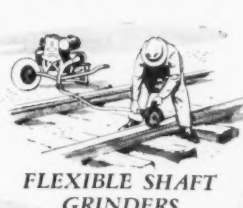
The elusive light switch, the treacherous stairway, the unlighted driveway—all can be outlined with phosphorescent paint to good purpose. Besides, there



These machines are representative examples of the wide variety of applications of Briggs & Stratton motors



CREAM SEPARATORS



FLEXIBLE SHAFT GRINDERS



INDUSTRIAL TRUCKS

## Final INSPECTORS KNOW—



"It's powered right when it's powered by Briggs & Stratton"

In the plants of hundreds of manufacturers where gasoline-powered machines, tools, and appliances are manufactured, the highly trained and skilled inspectors who put their "OK" on completed products readily grant their approval of the power unit when it's a Briggs & Stratton gasoline motor.

Briggs & Stratton precision manufacture—tested quality and proven performance are well known and accepted wherever gasoline-powered equipment is manufactured.

BRIGGS & STRATTON CORP., Milwaukee, Wisconsin, U. S. A.



When writing Briggs & Stratton please mention Purchasing

are invisible house numbers that can be found in the darkness . . . extra angles for game room decoration—in fact any number of other ways to use phosphorescent paints.

Perhaps one of the most important features is the fact that they are perfectly harmless . . . contain no radium whatsoever.

### FLUORESCENT INDUSTRIAL UNIT

■ The latest contribution by Mitchell Mfg. Co., Chicago, Ill., to industrial lighting for war production is "The Victory," a fluorescent industrial fix-



ture featuring a porcelain enamel reflector of one-piece, seamless, non-welded construction. It comes in two models—Model No. 2034, using 2 40-watt fluorescent bulbs, and Model No. 2035, using 3 40-watt bulbs. Both are high intensity, high efficiency units.

ideal for high lumen per watt performance. 13½ degree cut-off eliminates glare from all normal viewing angles. They are made of heavy gauge vitreous steel with triple-coated vitreous porcelain enamel reflector. Easy to maintain and service because reflector is quickly detachable from housing. Just remove two wing nuts. Power factor corrected. Latest, approved ballasts and starters. 110-125 volts, a.c. 60 cycle. Also available for 50 cycle operation, or for 220-250 volts. Both units are Fleur-O-Liers and also are approved by Underwriters Laboratories.

### INDUSTRIAL MASK



■ All ordinary masks that keep the filtering pad away from the nose and mouth depend on two surfaces holding a filter pad between them. This mask made by Allergy & Medical Products, Inc., Cincinnati, Ohio, has only one frame holding the filter away from the nose and mouth. This enables the mask to have a very large breathing area and at the same time permits the mask to be very light in weight. It weighs only one-half ounce. It is comfortable, permits wearing of goggles, and all its component parts are replaceable.

The mask is easy to use and has practically its entire area composed of breathing space.

### DOOR OPERATOR

■ A new type "Air-Lec" door operator for sliding doors has been introduced by the Schoelkopf Manufacturing Company, Madison, Wisconsin. Called the "Inertia Model," this operator is designed upon an entirely different principle than ever before employed in door operation. The application of force is more direct. The action is started by compressed air from the cylinder. During the main part of travel the door is rolling freely by its own momentum, at a controllable pre-determined speed and free from the operator. The main spring regulated by the checking action of the air cylinder, does the last part of opening or closing the door. The result is a quick start and a smooth stop, with less air used. Installations in numerous garages and industrial plants have proven its efficiency and economy.

# Reilly BLACKOUT PAINTS

## FOR GLASS AND METAL SURFACES



**ON GLASS:** Reilly No. 5 is applied cold by brushing. Adheres firmly, yet is easily removed when desired.



**ON EXPOSED METAL:** Reilly No. 40 is applied by brush or spray. Prevents light reflection, also protects against rust.



**TEMPORARY BLACKOUT PANELS:** Quickly made by painting plywood or other board with Reilly No. 40. Effective protection against shattered glass.

### Single Coat Gives Complete Stoppage of Both Direct and Reflected Light ★ ★ ★ ★

★ Applied to outside surfaces of windows and skylights, a single coat of REILLY No. 5 gives a heavy, opaque, waterproof surface that effectively blacks out all inside light—also prevents reflection of outside light from moon, stars, fires or flares. Light-proof, shatter-proof window panels may be quickly made by painting plywood or other prepared boards with Reilly No. 40.

On outside metal surfaces and structures, such as roofs, tanks, stacks, towers, etc., REILLY No. 40 makes such structures inconspicuous and also gives effective protection against rust. Developed especially for outside service, REILLY No. 40 is extremely resistant to moisture and corrosive vapors, and withstands wide temperature ranges.

Reilly Blackout Paints are furnished in 1 and 5 gallon cans, 50 gallon drums. Write for further information.



**REILLY TAR & CHEMICAL CORP.**  
MERCHANTS BANK BUILDING • INDIANAPOLIS  
500 Fifth Ave., New York, N.Y. • 2513 S. Damen Ave., Chicago

★ 17 PLANTS TO SERVE YOU ★

*When writing Reilly Tar & Chemical Corp. please mention Purchasing*



# OK on ARRIVAL...

THE CLEVELAND CAP SCREW CO., 2917 EAST 79th STREET, CLEVELAND, OHIO

• In keeping with our policy of constant improvement of product, we have also developed a better container... Of natural tan, virgin kraft board, reinforced, broad stitched, this package will stand constant rough handling... The label is not only handsome, but you can read with a minimum of effort just what is in the carton.



• Practical shipping containers have been selected to get the goods to you in the same fine condition as leaving the factory... All wood cases and corrugated cartons are scientifically re-enforced with steel ties of latest design... Keg heads are machine nailed.

BY THE BOX, OR BY THE MILLION... BUY  
**CLEVELAND CAP SCREWS**  
 SET SCREWS • BOLTS AND NUTS

Address the Factory or our Nearest Warehouse: Chicago, 726 W. Washington Blvd. • Philadelphia, 12th & Olive Streets  
 New York, 47 Murray Street • Los Angeles, 1015 E. 16th Street

*When writing Cleveland Cap Screw Company please mention Purchasing*

## INTERCOMMUNICATION SYSTEM

■ **Allied Radio Corp.**, Chicago, Ill., announces a 1942 innovation in low-cost intercommunication systems—precision-engineered to meet the exacting requirements of diversified production methods of the modern industrial plant.

Its unique versatility speeds up plant production, eliminates time waste, cuts costs, over-rides plant noise, reduces rejects and material waste. Operation and service costs are negligible.

It offers complete privacy of conversation between executives or customers, silencing of sub-stations when not in use.

In most installations any voice will carry over 50 feet. Workmen may answer without leaving the assembly line or their bench.

It has  $2\frac{1}{4}$  watts power output, enabling ten sub-stations to carry five simultaneous two-way conversations with absolute privacy. Up to 2,000 feet of cable may be used between each station. Housed in rich walnut-finished cabinets, 12" x 6" x  $5\frac{3}{4}$ ". For 110-115 volt a.c.-d.c. operation.

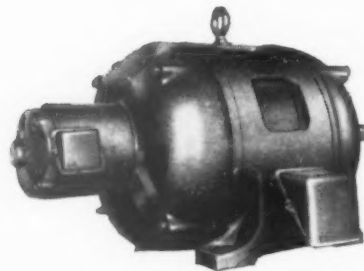
## PRECISION GRINDING WHEEL

■ **A. P. deSanno & Son, Inc.**, Phoenixville, Pa., has introduced a new type

precision grinding wheel. When properly used, it takes deeper cuts, breezing through .010" or more, also that it grinds 100 to 400% faster, increasing production per man per machine 2 to 5 times. The structure, instead of being "sandy" and compact is "stringy" and porous—resembling a sponge. Air cells allow the air to keep every grinding contact cool, yet it is hard, tough, holds the corner and requires little dressing—due to a new vitrified bond.

It grinds hard alloys, copper, aluminum, wood, rubber, plastics and other soft materials with minimum loading.

## REVOLVING FIELD GENERATORS



■ **Century Electric Company**, St. Louis, Missouri, now offers compact, streamlined, revolving field, alternating current generators. These generators are available in sizes from  $7\frac{1}{2}$  to 75 KVA—4, 6, or 8 pole, 1800, 1200 or 900 RPM, 60 cycle, (corresponding speeds for other frequencies) for belt or coupling drive or flange mounting.

They are offered for continuous duty in isolated plants, or to supplement other available power supply.

These generators are wound for the various standard voltages—single phase 2 and 3 wire, three phase 3 and 4 wire or two phase 4 wire. The neutral may be brought out for three phase 4 wire systems for light and power.

They are built to meet AIEE and NEMA voltage regulation standards. An automatic voltage regulator is generally used for best lighting service where the load fluctuates through a wide range. They can be designed for any desired value of power factor, but the regulation will be governed by the power factor.

## MOISTURE-PROOF PACKAGING

■ **The Reynolds Metals Company** has announced a water-proof, vapor-proof material for defense packaging, which is being widely acclaimed as a flexible can, relieving demands on critical materials.

It is a sturdy moistureproof material, especially valuable as a covering for fiber cans, or as liners, bags, box coverings, as well as for titewraps and cartons.

The company is accepting business only from firms with definite priority ratings.

## DEFENSE BULLETIN



## WE ARE ALL ON THE FIRING LINE . . . — NOW!

This war will be won by the "all out" teamwork of the men who fight and the men who work. Every product we produce for National defense has a direct bearing on victory. It may be hose for a navy yard on the Pacific, or rubber parts for a Detroit sub-contractor working on tanks, or airplane orders from Buffalo.

Continental customers well understand that their "civilian" needs must take second place to their war demands. Thus those who work, and those who wait, are also on "the firing line" in this fight which must not fail for the freedom of us all.

From Factory Bulletin Board of the

# CONTINENTAL RUBBER WORKS

MAKERS OF THE VITALIC LINE SINCE 1903  
ERIE, PA., U.S.A.



*When writing Continental Rubber Works please mention Purchasing*



# PUTTING THE PROPERTIES IN PLASTICS

ONE of the significant things about General Electric's self-contained plastics operation is that your product can receive the attention of experts in every phase of the business.

In a manner, it is comparable to submitting your proposed plastics part to a round-table discussion of chemists, designers, engineers, mold-makers and manufacturing men. From it can only come the plastics part that best suits your requirements.

The contribution of the chemist to the successful solution of your problem is interesting and

important. For "Putting the Properties in Plastics" is more than an alliterative phrase. It is the action taken by General Electric chemists to give your product the electrical, mechanical and chemical characteristics that its application demands.

This phase of G.E.'s operation is particularly pertinent at this time because most products, like most men, must work harder and longer in these times of war. Today's products must perform greater tasks. At One Plastics Avenue, chemists are helping them to do so.

P L A S T I C S   D E P A R T M E N T

**GENERAL**  **ELECTRIC**

P.D. 3



## REAMER

■ A new type of reamer, made of hardsteel and capable of reaming hardened steel of any degree of hardness without annealing, has been developed by the Black Drill Company, Cleveland, Ohio.

The reamer, made of the same secret-process metal which is used in hard-steel drills, is designed to operate in the same manner as the drills and will easily outlast any high-speed reamer now in use. While the ordinary high-speed reamer, will ream metals up to 35 degrees Rockwell, hardsteel reamers will ream metal of any hardness up to and

including nitrided surfaces. No other reamer has ever performed this task.

The remarkable fact about this operation is that while highspeed reamers used on steel of 35 degrees Rockwell hardness show extremely low tool life, hardsteel reamers will work in hardened steel of any hardness without unusual wear.

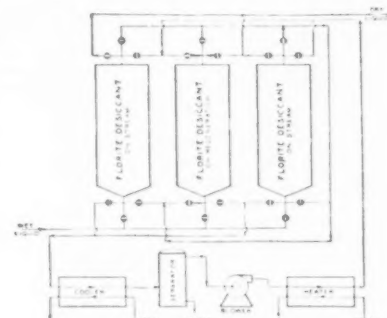
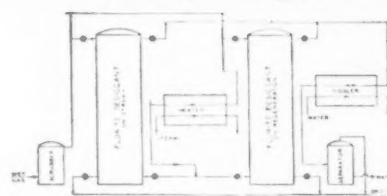
They have been used successfully on carburized, oil hardened, water hardened, cyanided and nitrided pieces of high carbon, high chrome and high-speed steel.

In addition, they will operate successfully in other difficult materials. For instance, they will ream manganese

steel without being affected by this metal's work-hardening qualities, and they will ream cored holes in chilled castings with much higher tool life than high-speed reamers.

## DRYING AGENT FOR GASES

Dehydration plant for gases.



Dehydration plant for liquids.

■ A granular drying agent for gases and liquids, has been placed on the market by the Floridin Company, Warren, Pa. It has not only been accepted as completely satisfactory in a variety of industrial processes requiring bone dry gases and liquids, but has also proved economical in many installations where high drying efficiency is not ordinarily demanded. Among the products now being successfully dehydrated are natural gas, propane, gasoline, air, nitrogen, and carbon dioxide. It may also be used in breathers for storage tanks and electrical transformers, to dehumidify air in air condition systems and to dehydrate refrigerants.

The outstanding characteristic is its ability to maintain a high drying efficiency under conditions that have rendered competitive materials useless. It absorbs water instantly and will not swell, disintegrate, or appear wet at the end of an adsorption cycle. It is hard, stable, non-corrosive, and non-poisonous. It selectively absorbs 4 to 20% of its weight in water, depending on the particular application, and is regenerated by heating to 300-350° F.

## TRANSPARENT CONCRETE FLOOR HARDENER

■ Interest in a varnish type transparent concrete floor hardener and finishing material has been considerably revived by the need of obtaining easy-to-clean, oil-proof, dustless cement floors in some of our new defense plants.

In order to offset the porous nature of cement floors and their tendency to



For glass, pottery and porcelain enameling; electroplating, metal finishing and fabricating; paint, varnish, linoleum and printing inks; and for many other industries and applications, Harshaw produces more than 500 different chemical products . . . Whatever your chemical requirements, whether for a pound or a carload—call Harshaw.

**THE HARSHAW CHEMICAL CO.**  
Cleveland, Ohio, and Principal Cities

Due to the tremendous requirements of industries working on war production, some materials are not readily available. However you can be assured of our full cooperation on all orders.

*When writing the Harshaw Chemical Co. please mention Purchasing*



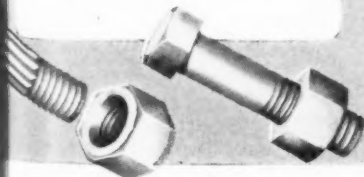
Structural material  
Plates, various qualities  
Floor Plates  
Sheets: Hot Rolled, Cold Rolled,  
Galvanized, etc.  
Bars (all shapes): Hot Rolled,  
Carbon and Alloy grades  
Hot Rolled Strip Steel  
Spring Steel · Tool Steel  
Drill Rod  
Cold Finished Bars, Carbon and  
Alloy grades  
Wire  
COR-TEN and MAN-TEN Shapes,  
Sheets and Plates  
Abrasion-Resisting Sheets and  
Plates  
Eaves Trough, Conductor Pipe  
U-S-S Stainless Steel and  
Stainless products  
Expanded Metal  
Rails  
Boiler Tubes  
Rivets, Bolts, Nuts, Washers  
Dardelet Rivet and Machine Bolts  
Nails  
Welders and Welding Accessories  
Chain  
Clamps  
Flanges  
Expanders, etc.  
Hoists, Shears, Rolls, Punches,  
Cut-Off Machines, Saws,  
Nibblers, etc.

## *In Stock!* *Dardelet Bolts*

We can offer immediate shipment of both Dardelet Rivet Bolts and Dardelet Machine Bolts. These bolts save valuable time and labor and assure permanently tight bolts.

The Dardelet Rivet Bolt is a ribbed bolt with Dardelet self-locking thread, and is widely used for field erection of structural steel. Has recessed nut. Bolt is driven in and nut is applied with wrench. Economical and strong.

The Machine Bolt with Dardelet self-locking thread is for general use where vibration is present.



STEELS THAT MEET THE CHALLENGE  
OF TODAY AND TOMORROW



# UNITED STATES STEEL



## *Don't give up without calling Scully!*

CHICAGO ..... BRUnswick 2000

*Teletype CG. 605*

BALTIMORE ..... GILmore 3100

*Teletype BA. 63*

BOSTON ..... STAdium 9400

CLEVELAND ..... HEnderson 5750

*Teletype CV. 153*

PITTSBURGH ..... CEdar 7780

*Teletype PG. 475*

ST. LOUIS ..... MAIn 5235

MINNEAPOLIS - ST. PAUL ..... NEstor 2821

NEWARK, N. J. ..... Blgelow 3-5920

BErgen 3-1614 - REctor 2-6560

## SCULLY STEEL PRODUCTS COMPANY

*Distributors of Steel and Steel Products*

dust—many thousands of square feet of concrete floor surface of the celebrated St. Louis Arsenal were given a one-coat treatment. Material is known as "Granitex," manufactured by The Truscon Laboratories of Detroit, Mich.

Unlike chemical hardener, "Granitex" does not develop any chemical reaction with elements in the concrete. On the contrary, it is absorbed into the concrete and has pore-filling and sealing qualities that make it very useful. Cement floors are preserved, are easier cleaned and maintained—made oilproof and non-staining.

### ELAPSED TIME METER

■ **To check** production and machine tool life in industrial plants where time studies are made, a new meter to indicate elapsed time in minutes or hours is announced by Westinghouse Electric and Manufacturing Company.

Using six counter units instead of the usual five, the meter consists essentially of a synchronous driving motor, a gear train and six numbered wheels. The motor operates at 600 r.p.m. on a 115-volt, 60 cycle circuit. Synchronous operation is not affected by voltage variations of from 75 to 125 per cent of rated value. Life-time bearing lubrica-

tion is provided by oil storage reservoir. Gears are precision, machine cut and gold plated to resist corrosion.

To operate, the meter is connected in parallel with the apparatus of which total hours of operation are to be measured. Meter circuits are closed when the machine operates, causing the synchronous motor to run continuously.

Resetting to zero or any value is accomplished by removing the case and disengaging the number wheel shaft. The wheels can then be set to any desired reading.

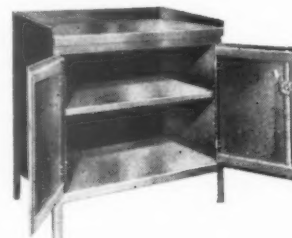
### SYNTHETIC RUBBER PACKINGS



■ **The mechanical division** of The Monarch Rubber Co., Hartsville, Ohio, has developed, by compounding a new synthetic rubber, special shapes and sizes of packings and other molded and extruded parts that have exceptional oil resistance, flexibility and ability to seal pressures at extremely low temperatures and other desirable qualities not available with usual rubber parts. Packings of this material are particularly desirable for aircraft use and wherever there is a wide variation of temperatures.

Producing special parts of this synthetic rubber material is available to meet varying requirements particularly where defense priorities are in effect.

### MACHINE TOOL CABINETS



■ **The machinist** is offered a handy work bench-cabinet which features security and all-around usefulness by Lyon Metal Products, Aurora, Ill. Heavy gauge working surface is ideal for small vises and grinders.

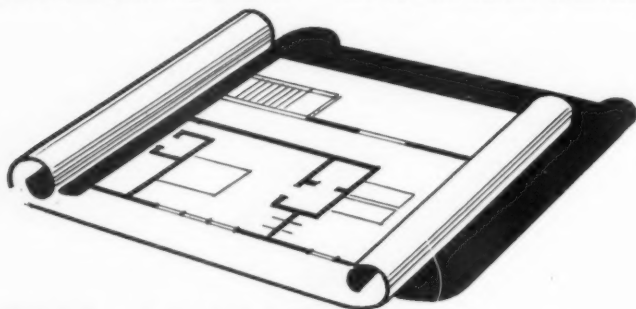
Twelve square feet of enclosed storage area are protected by full swinging triple latch doors equipped with padlock hasp or built-in flat key lock. Center shelf is adjustable on 1½ inch centers. Finished in durable green baked enamel.



## THIS GUARDS *blueprints*

To provide protection for the thousands of valuable blueprints entrusted in their hands by clients and the Government, the Pioneer Engineering & Manufacturing Company, Detroit, Engineering Consult-

ants, have designed and built into their new building every precautionary measure against the saboteur and spy, as recommended by the Army, the Navy, and the Federal Bureau of Investigation.



## THIS GUARDS *drawings*

But steel and concrete can't protect your important drawings from the ravages of time. Tracing cloths that turn brittle and opaque with age destroy thousands of dollars worth of drawings annually. Don't just *hope* this won't happen to you. Specify Arkwright on your next

order for tracing cloth, and be *sure!* Sure of a tracing cloth that is clean, transparent, thin yet strong. More important — Arkwright Tracing Cloths *stay* this way. Insist on tracing cloths made by America's oldest manufacturer! Arkwright Finishing Co., Providence, Rhode Island.

*Arkwright* TRACING CLOTHS

"AMERICA'S OLDEST AND FINEST"

Sold by Leading Drawing Material Dealers Everywhere

When writing Arkwright Finishing Co. please mention Purchasing



# SHOOT FOR GREATER ARMAMENT OUTPUT

## with BLACK & DECKER Electric Tools



**HOLGUNS KEEP 'EM FLYING.** These Black & Decker "handfuls of power" speed up drilling in aircraft wings and other assemblies. The "ace" production tools in top flight aviation plants.



**ELECTRIC DIE GRINDERS** shift armament output into high gear. Use these Black & Decker precision Die Grinders for close-tolerance work on casting, stamping and forging dies.



**VACKAR** Portable Electric Cleaner removes dirt and dust from floors, walls, bins and pipes. A powerful, compact Black & Decker unit that "tows by the hose."



**ELECTRIC TAPPERS** give precision tapping results—8 times faster than hand. These B & D Tools accurately thread in all shapes of assemblies and greatly minimize tap breakage.

**BLACK & DECKER** Portable Electric Tools enable industry to raise its armament output, by speeding up hundreds of production operations. Because they are quality-built and abundantly powered, they perform tough production jobs easier, faster, with greater efficiency, less fatigue.

Black & Decker makes the exact type Portable Electric Tool you need—in any quantity—to speed up your assembly lines. Black & Decker's nation-wide field force gives dependable tooling-up advice . . . a convenient and informed source of tool supply is available from leading dis-

tributors in all principal cities . . . and you minimize delays by obtaining prompt repair and parts service from 26 Factory-owned Branches located coast-to-coast. Your jobber stands ready to demonstrate Black & Decker Electric Tools *engineered* to solve your specific problems.

### FREE! New 1942 Tool Catalog

Write for Black & Decker's New Catalog, describing over 100 different types of Electric Tools for production, plant maintenance and construction. Address: The Black & Decker Mfg. Co., 764 Pennsylvania Ave., Towson, Maryland.

LEADING DISTRIBUTORS EVERYWHERE SELL

# Black & Decker

PORTABLE ELECTRIC TOOLS

When writing The Black & Decker Mfg. Co. please mention Purchasing

### SUBSTITUTE FOR RUBBER

■ Because crude rubber formerly employed is now prohibited by the government for the manufacture of hand stamps, due to the war emergency, The B. F. Goodrich Company, Akron, Ohio, announces a new line of compounds made from Ameripol, the synthetic rubber developed in its own laboratories, and also compounds from reclaim rubber. They can be used in making hand-daters, logotypes and toy stamping sets.

Both compounds are black and vulcanize at 307 degrees Fahrenheit. The Ameripol compound has a Durometer reading of 55, specific gravity of 1.22 and a ten-minute cure while the reclaim

compound has a Durometer of 60, specific gravity of 1.27 and seven-minute cure.

There are approximately 10,000 workers employed in the manufacture of these articles, many of whom might have been forced out of work by the rubber restrictions had there not been available a substitute material.

### COLD ROLLED COPPER CONTAINER

■ The problem was the shipment of cold rolled copper. By changing from his old type of package to a new engineered container, a prominent manufacturer



was able to make important savings in time and money. These new boxes, laboratory-designed for his specific problem, are manufactured by the General Box Company of Chicago, Ill.

Packing time is saved with the new container. Less nails are used—so the nailing time is reduced. Shipping weight has been lowered by 23 lbs., making handling easier, faster and making possible important savings in freight charges.

The box is manufactured from selected woods. Reinforcing wires give the box added strength. The box has been designed in the laboratory to provide the minimum amount of weight consistent with maximum protection.

### BELT VULCANIZER

■ Change in design of its No. 28 belt vulcanizer, to allow greater service is announced by The B. F. Goodrich Company, Akron, Ohio.

The No. 28 vulcanizer is now made with a square instead of a diagonal end, making it possible to cure wider belts. Widths of 34 inches can be cured with the vulcanizer placed at right angles across the belt. By placing the vulcanizer at an angle of approximately 22 degrees, a 28-inch belt can be cured, at an angle of 30 degrees, a 24-inch belt and at a 45-degree angle, a 16-inch belt.

The new design has a platen 11 inches by 36½ inches, overall length of 41 inches, overall height 23½ inches and weighs 380 pounds complete with sheet iron platen covers, curing pad and two 25-foot lengths of extension cord.

### IMPACT-RESISTANT PHENOLIC MOLDING PLASTIC

■ Bakelite Corporation, Unit of Union Carbide and Carbon Corporation, New York, N. Y., has announced the development of a new impact-resistant phenolic molding plastic. This product was developed to meet the needs of industry for a high impact-resisting molding material that can be preformed on automatic tableting machines.

As a result, it is now the highest impact phenolic material that can be preformed in this manner. When molded, it has approximately twice the shock resistance of general-purpose phenolics. Its water resistance is also good when compared to other shock-resistant phenolic plastics.

# How VEELOS V-Belt Can Help Win the War!

Here are 3 ways the exclusive link construction of Veelos V-Belt speeds production for victory!

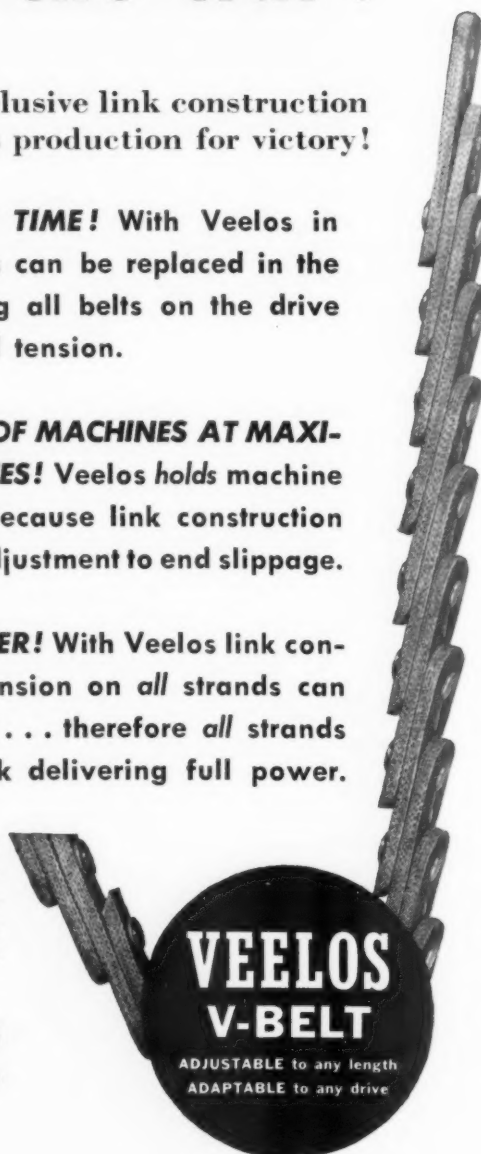
**1 SAVES PRODUCTION TIME!** With Veelos in rolls, strands of Veelos can be replaced in the bat of an eye, keeping all belts on the drive and maintaining equal tension.

**2 PERMITS OPERATION OF MACHINES AT MAXIMUM RATED CAPACITIES!** Veelos holds machine speeds at maximum because link construction provides quick, easy adjustment to end slippage.

**3 DELIVERS MORE POWER!** With Veelos link construction, equalized tension on all strands can readily be maintained . . . therefore all strands are constantly at work delivering full power.

Let a Veelos sales engineer—especially trained in power transmission work—tell you the complete story of Veelos—the only V-Belt that offers the advantages of link construction.

**MANHEIM MANUFACTURING & BELTING CO., MANHEIM, PA.**

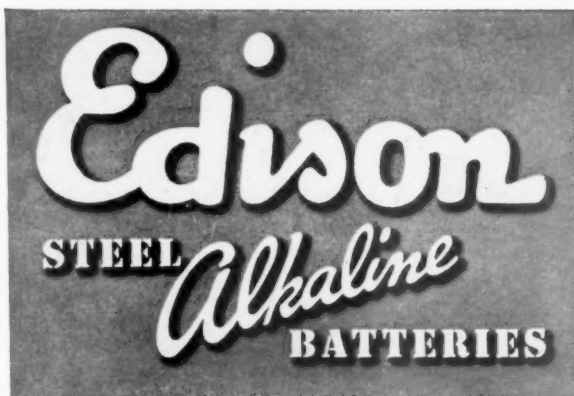


*When writing Manheim Manufacturing & Belting Co. please mention Purchasing*



*Steel-alkaline batteries are also light in weight, an aid to quick exchange of batteries at 8-hour to 12-hour intervals.*

## Dependable Batteries *aid* Maximum Production



**W**ith the 24-hour day and the 7-day week going into effect in our war industries, the battery industrial trucks handling materials in these industries must likewise go into continuous operation.

Here is where the dependability of the steel-alkaline battery is already aiding maximum production. With its high-strength steel construction and its fool-proof electrical characteristics it had demonstrated long before the war began that it was by far the most dependable of all storage batteries.

As power supply for the battery industrial truck—itsself an inherently fool-proof and dependable machine—two 12-hour batteries of this type (or three 8-hour batteries) provide the strongest insurance of continuous availability for duty that American inventive genius has yet devised. Edison Storage Battery Division of Thomas A. Edison, Inc., West Orange, N. J., U.S.A.

*When writing Thomas A. Edison, Inc. please mention Purchasing*



# PERSONALITIES

## *in the* NEWS

**H. E. Pape**, formerly Purchasing Agent for the American Tube and Stamping Plant of the Stanley Works, at Bridgeport, Conn., has been appointed General Purchasing Agent of Stanley Works, with headquarters at New Britain. Mr. Pape is a past president of the Connecticut Association.

**Woodbury Hale**, Purchasing Agent of the Boston Consolidated Gas Company, and John A. Roche, Purchasing Agent of the Eastern Gas & Fuel Associates, both companies affiliated with the Koppers organization, were recently presented with diamond pins emblematic of thirty-five years of service.



**E. B. Fielis**

**Edward B. Fielis**, Purchasing Agent for the New York & Queens Electric Light & Power Co., is retiring from active business after 31 years in that position. His record in association work is perhaps even more unusual, for he has served—modestly, ably, and conscientiously—as Treasurer of the New York Purchasing Agents Association since 1922. He has consented to continue in this office through the period of the N.A.P.A. convention in New York in May. After that, the association will face a problem it has not had over the span of two decades, in finding a successor.

Mr. Fielis, a Pennsylvanian by birth, started his business career in the railroad field, and his early experience included two years of purchasing work. He came to New York in 1908 as Secretary of the New York & Richmond Gas Co., Staten Island, and joined the New York & Queens organization three years later as Purchasing Agent.

Interested and active in civic, fraternal, industrial and political projects, he has at various times been President of his company's employee association, Vice Chairman of the Metropolitan Section, N.E.L.A., member of the Queens Council of Boy Scouts and Treasurer of two Boy Scout troops, President and Treasurer of the Jackson Heights Golf Club, and member of the local School Board. He is a member of the Queensboro Chamber of Commerce, Long Island Association, Electrical Association of New York, Queens County Grand Jurors' Association, and of the Selective Service Board in his district.

**Carl H. Carlson** has been appointed Director of Buying for Horder's, Inc., prominent Chicago distributor of office supplies and equipment. He has been with the organization since 1923, and is the originator of the Systems-Advisory and Furniture Planning departments, through which specialists in office problems provided practical solutions for business men faced with such problems.

**H. Dale Henderson** has been appointed Purchasing Agent for the Earle M. Jorgensen Co., Houston, Texas, succeeding E. V. Brown, who has been transferred to the sales department of

## JOHNSON BRONZE

### SLEEVE TYPE BEARINGS



## How to make Good Motors BETTER

### NEW Catalogue

Lists and describes the most complete stock bearing service available. Write for your free copy.

It makes little difference whether you are buying, building or repairing motors, JOHNSON BRONZE can help you. In new equipment we can help you design the type of bearing that will guarantee the most efficient operation. For replacements, we offer you the largest range of sizes and types in bearings available. In order to get the most from your motors—consult with JOHNSON BRONZE. Let us help you make good motors **BETTER**.



## JOHNSON BRONZE

*Sleeve* BEARING HEADQUARTERS

450 S. MILL STREET • NEW CASTLE, PA.

*When writing Johnson Bronze please mention Purchasing*

# These Low-Cost METAL-CUTTING BAND SAWS Can Help You *Right NOW*

When you are confronted with an urgent need for immediate increased production in connection with the U. S. armament program — check into the possibilities of using this 14-inch Delta metal-cutting band saw. It is ideal for cutting

- |                     |                      |                              |
|---------------------|----------------------|------------------------------|
| • Aluminum Castings | • Cold Rolled Steel  | • Malleable Iron             |
| • Aluminum Sheets   | • Carbon Tool Steel  | • Babbitt                    |
| • Hard Cast Brass   | • Bronze & Manganese | • Bakelite & Molded Plastics |
| • Soft Cast Brass   | • Drill Rods         | • Asbestos & Felt            |
| • Brass Sheets      | • High Speed Steel   | • Brake Linings              |
| • Brass Tubing      | • Monel Metal        | • Fibre & Mica               |
| • Cast Iron         | • Nickel Steel       | • Slate & Transite           |
| • Copper            | • Iron Sheets & Bars | • Hard Rubber                |
| • Metallic Hose     | • Pipe               |                              |

## Will Help Speed up Production

There is no limit to the number of jobs you can find for this economical low-cost tool around the general tool and machine shop. And the few uses mentioned above scratch only the surface of the machine's adaptability. Die casters and molders of plastics find it indispensable for trimming work. The miter-gage groove in the table makes it easy to fit the machine with fixtures for cutting tubing, etc., on a production basis, and it can be fitted with rip gage for cutting strips from sheet metal. Once the machine is installed, there is no end to the number of jobs that are found for it!

## Many Basic Advantages

This machine is not just another metal-cutting saw—but represents sound designing from the bottom up with many new basic features. Double trunnions provide rigid table mounting. Fully enclosed gear-drive, running in oil, is mounted directly on base of machine. Four metal-working speeds. Can be switched easily into high speed for soft materials. All wheels and shafts are carried on New Departure self-sealed ball bearings, insuring trouble-free performance for the entire life of the bearings. The guides, unlike those in ordinary machines, adjust independently of each other, are made with micrometer accuracy; and provide smooth, clean, accurate cutting.

## OTHER DELTA LOW-COST MACHINES



**Cut-Off Machine** cuts speedily and to exact lengths a wide variety of materials. Priced at one half the usual cost of machines of this type.



A complete line of single and multiple spindle 14" and 17" drill presses in slow and high speed models.



**Bench and Pedestal Grinders** "that never forget their goggles"—the safest, most accurate and efficient grinders made.

## Send for CATALOG

Send coupon below for latest Delta catalog giving full specifications and prices of Delta 14-inch Metal-Cutting Band Saw. Also prices and details on the complete line of Delta low-cost machines.



# DELTA MILWAUKEE

THE DELTA MANUFACTURING COMPANY  
639-C E. Vienna Avenue, Milwaukee, Wis.

Please send me catalog of Delta Machines, giving specifications and prices on Delta Metal-Cutting Band Saws. I am also interested in ☐ Delta Cut-Off Machines ☐ Delta Drill Presses ☐ Delta Grinders ☐ Delta Power Feed Drill Presses.

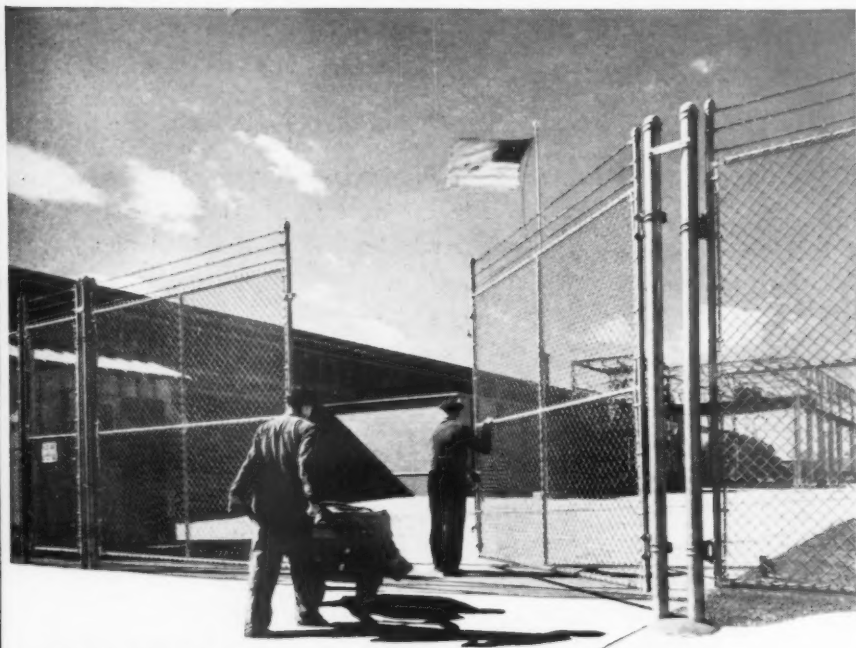
Name .....  
Address .....

No. 887-C—  
Metal-Cutting  
Band Saw

When writing The Delta Manufacturing Company please mention Purchasing

# PAGE FENCE

*America's First Wire Fence - Since 1883*



## GUARDIAN OF TOP-SPEED PRODUCTION TO DEFEAT ENEMIES OF LIBERTY

• Production time is now more precious than ever before. Plants must be protected against dangerous delays caused by hostile trespassers. • Safeguarding industrial property has been a major function of sturdy Page Fence since J. Wallace Page originated woven wire fence in 1883, and founded the company which has been a leader in important fence developments. Safeguarding the fence investment through localized, responsible engineering and erecting service is also a Page achievement. More than 100 factory-trained, long-experienced local firms which own their own plants, make up the PAGE FENCE ASSOCIATION, Headquarters: Monessen, Pennsylvania.

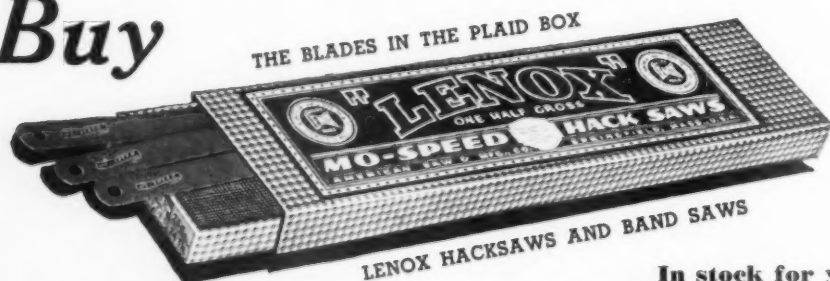
**VICTORY FIRST**  
At the Page mills, men, machines and materials are on an all-out schedule for production of fence to protect plants working on Government orders.

See ACCO advertisement in this issue, page 100

PRODUCT OF PAGE STEEL & WIRE DIVISION—AMERICAN CHAIN & CABLE COMPANY, INC., BRIDGEPORT, CONN.

## FOR EVERY METAL CUTTING JOB

# Buy



LENOX HACKSAWS AND BAND SAWS

In stock for you  
by distributors everywhere

AMERICAN SAW & MFG. CO.

SPRINGFIELD, MASS.

the company. J. W. Cameron is Assistant Purchasing Agent.

**George A. Renard**, Executive Secretary of the National Association of Purchasing Agents and acting chief of the Printing and Publishing Branch, W.P.B., addressed the Sales Executives Club of New York City at the Roosevelt Hotel, January 27th. Other speakers on the program included Julius Hirsch of the Research Institute of America, B. C. Forbes of *Forbes Magazine*, and F. K. Doscher of the Lily-Tulip Cup Corp.

**Col. A. B. Quinton, Jr.**, Assistant Chief of Industrial Service in charge of purchasing for the Ordnance Department, U. S. Army, has been named Assistant Director of Production in the office of the Under Secretary of War. Col. Quinton is a graduate Civil Engineer (Cornell), Mechanical Engineer (M.I.T.), and Master of Business Administration (Harvard). He has been in the Ordnance Department since 1912, served on the staff of the Chief Ordnance Officer of the A.E.F. during the World War, was awarded the Purple Heart and decorated by the French Government.

**T. D. Hudson**, formerly Purchasing Agent of the Pittsburgh-Conneaut Dock Co., Conneaut, Ohio, has been appointed Assistant Purchasing Agent of the American Steel & Wire Co., Cleveland. Both companies are subsidiaries of the U. S. Steel Corp.

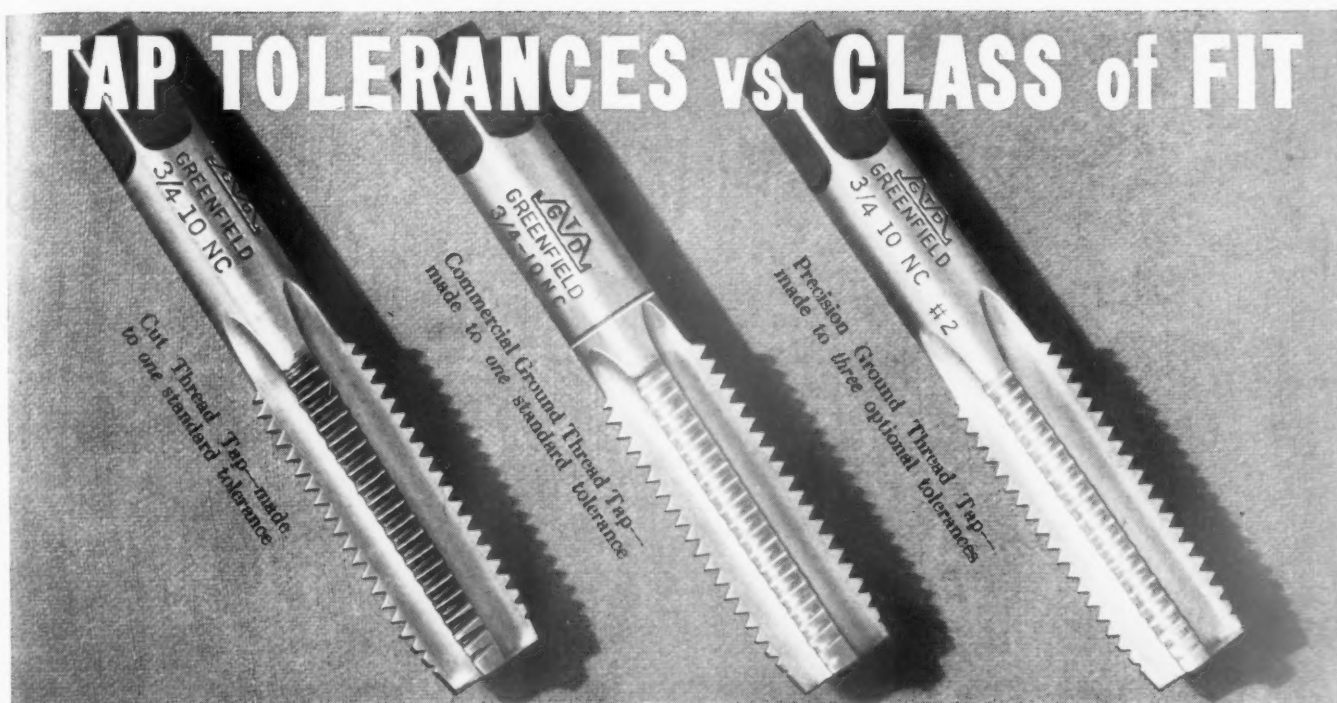
**Col. C. D. Young**, Vice President in charge of Purchases, Stores and Insurance for the Pennsylvania Railroad, has been appointed head of the Materials and Equipment Section of the Office of Defense Transportation, reporting directly to ODT Director Joseph B. Eastman. Col. Young is also Chief of the Railway Section under the Chief of Engineers, U. S. Army. A graduate of Cornell University in mechanical engineering, Col. Young has been with the Pennsylvania System since 1900, starting in the mechanical department, later taking over purchasing responsibilities and becoming Vice President in 1932. He is a past president of the American Society for Testing Materials. During the World War he served with the 304th Engineers, 79th Division, and for five years from 1924 to 1929 was assigned as chief of the Philadelphia Engineer Procurement Group.

**A. W. Hix** has been appointed Acting General Purchasing Agent of the Chesapeake & Ohio Lines, with headquarters at Cleveland, Ohio. He is taking the place of R. M. Nelson, who is on leave of absence.

**S. E. Mahoney** of the British Purchasing Commission, formerly an air raid warden in London, addressed a recent meeting of air raid wardens at Bay-side, Long Island, describing methods which had been found most effective in England.

When writing advertisers please mention Purchasing





A common source of confusion in tapping is failure to distinguish between CLASS of FIT as applied to the PRODUCT, and PITCH DIAMETER LIMITS as applied to PRECISION GROUND THREAD TAPS. The cause of this confusion doubtless is the fact that both terms involve the use of a similar, but not identical, series of numbers, and that the corresponding numbers have no direct relationship.

CLASS of Work FITS or "Screw Thread Assemblies" are:

No. 1—"Loose"      No. 2—"Free"  
No. 3—"Medium"    No. 4—"Close"

Optional Pitch Diameter LIMITS or TOLERANCES of Precision Ground Thread Taps are: No. 01, No. 1, No. 2.

The table at the right indicates the taps which normally will produce Class 2 and 3 Fits, the ones most commonly used. Ordinarily, when using Precision Ground Thread Taps it is best to determine what screw assembly fit is required, then the Tap to produce threads for that fit may be selected by trial from the optional tolerances available.

| Size  | Threads per Inch |    |    | Class |      | Size | Threads per Inch |    |    | Class     |      |
|-------|------------------|----|----|-------|------|------|------------------|----|----|-----------|------|
|       | NC               | NF | NS | 2     | 3    |      | NC               | NF | NS | 2         | 3    |
| 1/4   | 20               | .. | .. | Cut   | CG   | 0    | ..               | 80 | .. | PG 1      | PG 1 |
| 5/16  | 18               | .. | .. | Cut   | PG 2 | 1    | 64               | .. | .. | PG 1      | PG 1 |
| 3/8   | 16               | .. | .. | Cut   | CG   | 2    | ..               | 72 | .. | PG 1      | PG 1 |
| 7/16  | 14               | .. | .. | Cut   | PG 2 | 3    | ..               | 56 | .. | PG 1      | PG 1 |
| 1/2   | 13               | .. | .. | Cut   | CG   | 4    | ..               | 64 | .. | PG 1      | PG 1 |
| 9/16  | 12               | .. | .. | Cut   | CG   | 5    | ..               | 48 | .. | CG        | PG 1 |
| 5/8   | 11               | .. | .. | Cut   | CG   | 6    | ..               | 56 | .. | CG        | PG 1 |
| 11/16 | ..               | .. | 11 | Cut   | CG   | 8    | ..               | 40 | .. | CG        | PG 1 |
| 3/4   | 10               | .. | .. | Cut   | CG   | 10   | ..               | 48 | .. | CG        | PG 1 |
| 7/8   | 9                | .. | .. | Cut   | CG   | 12   | ..               | 36 | .. | CG        | PG 1 |
| 1     | 8                | .. | .. | Cut   | CG   | 14   | ..               | 32 | .. | CG        | PG 1 |
| 1 1/8 | 7                | .. | .. | Cut   | CG   | 16   | ..               | 24 | .. | Cut or CG | PG 1 |
| 1 1/4 | ..               | 12 | .. | CG    | CG   | 18   | ..               | 20 | .. | ..        | PG 1 |
| 1 3/8 | ..               | 12 | .. | CG    | CG   | 20   | ..               | 16 | .. | ..        | PG 1 |
| 1 1/2 | ..               | 12 | .. | CG    | CG   | 24   | ..               | 14 | .. | ..        | PG 1 |
| 1 3/4 | ..               | 12 | .. | CG    | CG   | 28   | ..               | 12 | .. | ..        | PG 1 |
| 1 7/8 | ..               | 12 | .. | CG    | CG   | 32   | ..               | 10 | .. | ..        | PG 1 |
| 2     | ..               | 12 | .. | CG    | CG   | 36   | ..               | 9  | .. | ..        | PG 1 |
| 2 1/4 | ..               | 12 | .. | CG    | CG   | 40   | ..               | 8  | .. | ..        | PG 1 |
| 2 1/2 | ..               | 12 | .. | CG    | CG   | 48   | ..               | 7  | .. | ..        | PG 1 |
| 2 3/4 | ..               | 12 | .. | CG    | CG   | 56   | ..               | 6  | .. | ..        | PG 1 |
| 3     | ..               | 12 | .. | CG    | CG   | 64   | ..               | 5  | .. | ..        | PG 1 |
| 3 1/4 | ..               | 12 | .. | CG    | CG   | 72   | ..               | 4  | .. | ..        | PG 1 |
| 3 1/2 | ..               | 12 | .. | CG    | CG   | 80   | ..               | 3  | .. | ..        | PG 1 |
| 3 3/4 | ..               | 12 | .. | CG    | CG   | 90   | ..               | 2  | .. | ..        | PG 1 |
| 4     | ..               | 12 | .. | CG    | CG   | 100  | ..               | 1  | .. | ..        | PG 1 |

#### SYMBOLS

CUT—Cut thread taps, either in carbon or high speed steel.

CG—Commercial ground thread taps in high speed steel. See Standard Tables.

PG—Precision ground thread taps.

More detailed information on this whole subject may be found in "Greenfield's" free book "FACTS ABOUT TAPS AND TAPPING." Send for a copy.

## GREENFIELD TAP AND DIE CORPORATION

GREENFIELD • MASSACHUSETTS

GREENFIELD TAP AND DIE CORP. OF CANADA, LTD., GALT, ONTARIO



TAPS • DIES • GAGES • TWIST DRILLS • REAMERS • SCREW PLATES • PIPE TOOLS

*This is one of a series of advertisements published by Greenfield Tap & Die Corporation to help users get greater production from their small tools in these critical times, through making useful facts more widely known*

When writing Greenfield Tap and Die Corporation please mention Purchasing

# ARMSTRONG

There are no finer  
wrenches obtainable

Designed with a full knowledge of wrench requirement, each ARMSTRONG WRENCH is stronger for size and weight than an ordinary wrench, is accurately balanced and handier, will stand up under the hardest usage and gives years of service. They are drop forged from special analysis Carbon or Chrome-Vanadium Tool Steels and are heat treated to give the correct degrees of both stiffness and tensile strength. Openings are accurately milled or broached to exact clearances so they go over screw heads or nuts easily, yet take a safe positive grip that never slips nor rounds screw heads or nuts. That is why they are selected as the machine wrenches for the finest machine tools and airplane engines—why they are the standard wrenches in the best equipped plants.

Write for  
Catalog C-39

Armstrong Bros. Tool Co.

"The Tool Holder People"

303 N. Francisco Ave.,  
Chicago, U. S. A.

Eastern Warehouse & Sales  
Office: 199 Lafayette St.,  
New York



FLEXIBLE  
BELT LACING

STEELGRIP is a stronger lacing for all power and conveyor belts. Cinches smoothly into belts, compresses the ends, prevents fraying. 2-piece hinged rocker pins prevent excessive wear. In boxes of long lengths.

Write for catalog.  
ARMSTRONG-BRAY & CO., "The Belt Lacing People"  
5378 Northwest Highway, Chicago, U.S.A.



BELT  
HOOKS

WIREGRIP belt hooks have the patented blue aligning card that holds hooks firmly in position, prevents them from loosening, prevents hook loss from handling, prevents waste of short ends. Every WIREGRIP Hook to the last one can be used.

Dwight A. Bessmer has been appointed Assistant Director of Purchases for the Timken Roller Bearing Co., Canton, Ohio. Mr. Bessmer is a graduate of the Michigan School of Mines and of the company's special engineering training course. He has been in the purchasing department as a buyer for the past two years, prior to which time he served as automotive sales engineer in the Detroit territory.

Alfred P. Craven has been named Acting Purchasing Agent for Dallas County, Texas, during the absence of County Purchasing Agent B. A. Phillips, who is on leave to serve with the War Production Board in Washington.

Claude Mengel has been appointed Purchasing Agent and office manager of the Horace T. Potts Co., Philadelphia.

George E. Potts, Purchasing Agent of Iowa State College, Ames, Iowa, has been appointed assistant business manager of the college in addition to his purchasing duties.

Percy L. White has been appointed General Purchasing Agent for the Federal Mining & Smelting Co., with headquarters at the Morning Mine at Mullan, Idaho. He succeeds the late J. H. Burns. Mr. White had served as Assistant Purchasing Agent for several years.

Sir Louis Beale, head of the British Purchasing Commission, was the principal speaker at the 32nd annual banquet of the Beaver County (Penna.) Manufacturers Association, held at the Brodhead Hotel, Beaver Falls.

L. H. Schreiber, Purchasing Agent of the Wrisley Co., addressed a recent meeting of the combined faculties of the Argo, Ill., public schools, outlining aptitude tests used in the selection of personnel, educational qualifications sought by industrial employers, and the advantages of the work-education training plan.

John C. Riley, Jr., has resigned as Purchasing Agent for the Freeport (Texas) Sulphur Co., to accept a position with the International Minerals & Chemical Corp., at Austin, Texas.

Marcus White, Purchasing Agent of the Norton Company, Worcester, Mass., addressed the Seventh Annual Philatelic Congress at Boston on "United States Specimen Envelopes."

L. H. Bittner has been appointed Director of Purchases for the Allegheny Ludlum Steel Corp., at Brackenridge, Pa., succeeding E. L. McGraw, who now heads the company's new Scrap & Salvage Department. Mr. Bittner was formerly Purchasing Agent at the company's Dunkirk (N. Y.) plant, and for the past several years has been at the Brackenridge purchasing office. N. W. Hayson has been named Assistant Purchasing Agent.

When writing advertisers please mention Purchasing



## DON'T REPLACE Your Worn Bronze Valves ... — *Renew Them*

**{ SAVE THIS  
VITAL METAL }**

Bronze is more precious than gold. It has become important to you, then, as a user of Bronze Valves, that Pratt & Cady patented the Bronze Globe Valve with renewable seat and disc—and that Reading-Pratt & Cady have continually developed the principles of that patent.

★ For example, when, through long use, a Bronze Globe Valve finally becomes worn, you don't need to replace the stout body of special hard bronze or the high strength rolled bronze stem. They are still in excellent condition. . . . Your maintenance job is limited to first regrinding to a fresh seat and then, finally, replacing no more than the seat and disc—using a minimum of metal that is scarce and of time that is vital. . . . So don't even think of *replacing* your Bronze Valves—**MAINTAIN THEM CAREFULLY—REPAIR THEM—RENEW WORN PARTS.**

*If we can be of practical service, we'd like to help—in spite of the pressure of manufacturing schedules filled to capacity with the business of America at war. If we can, we will. Let us have the details of what you believe should be done for your valves.*

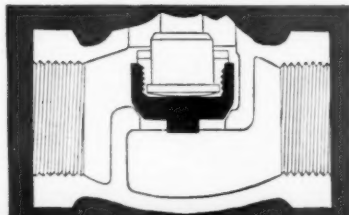
*As a matter of service to America, may we suggest that you sort all metal scrap carefully, protect it from the elements and pass it back to industry through a responsible dealer. Make this part of your program. There is a tragic shortage of scrap.*



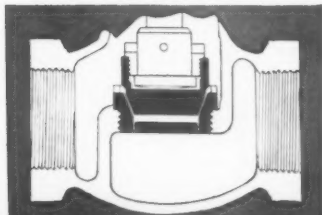
# READING-PRATT & CADY

READING, PENNSYLVANIA

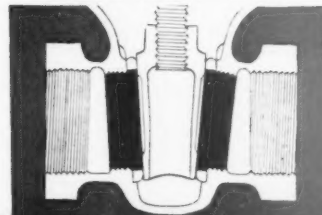
REGRINDING GLOBE VALVE  
REGRIND AND RENEW



SEMI-PLUG TYPE GLOBE VALVE  
REGRIND AND RENEW



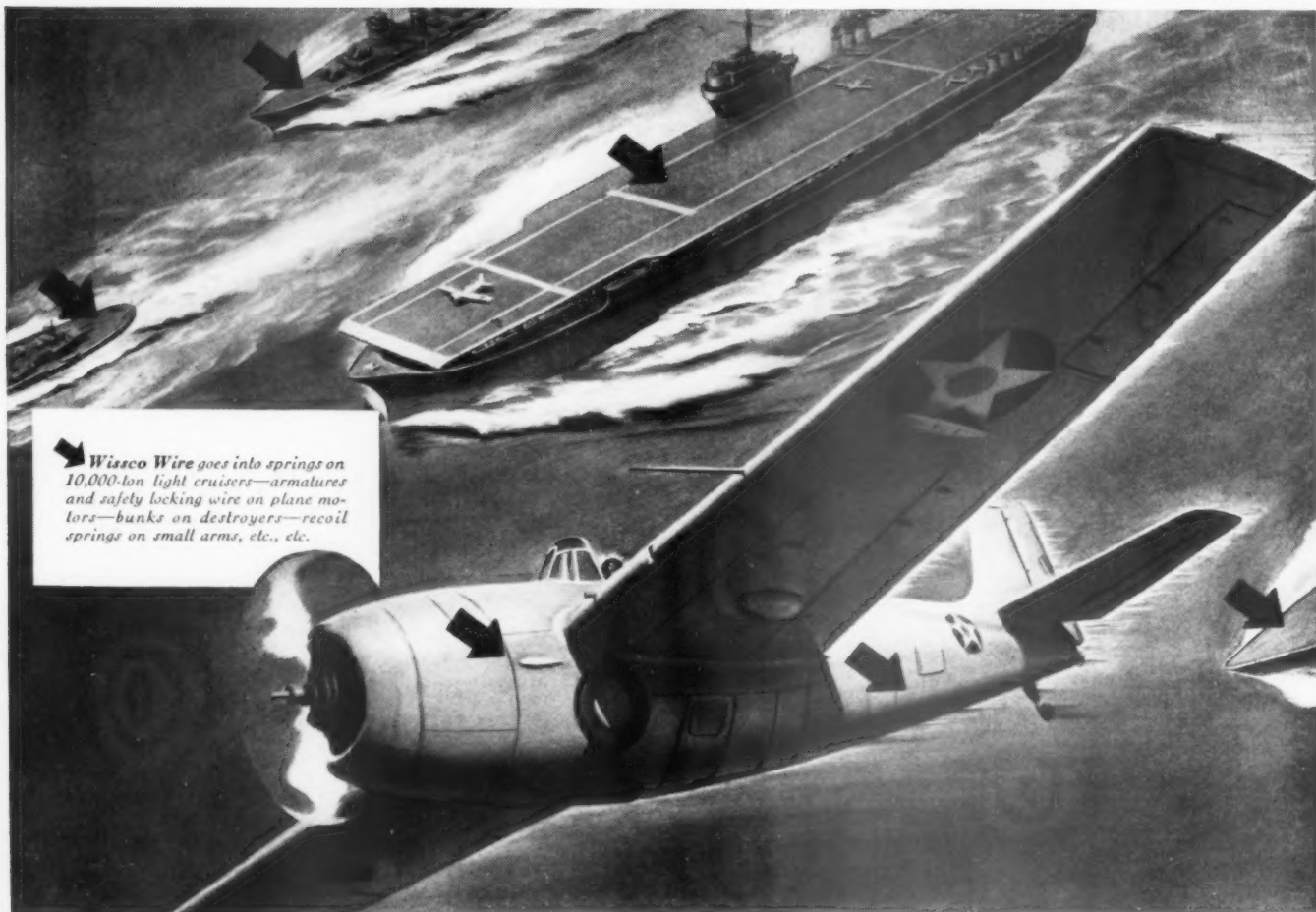
BRONZE GATE VALVE  
REVERSE WEDGE—RENEW



A Division of AMERICAN CHAIN & CABLE COMPANY, INC. Bridgeport, Conn.

*When writing Reading-Pratt & Cady please mention Purchasing*



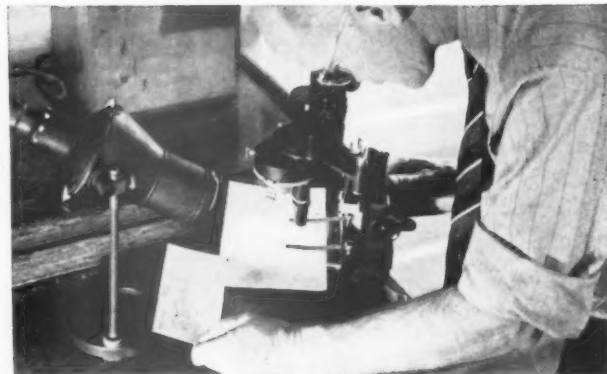


## Find the WISSCO wire in this picture

EACH ARROW points out a spot where Wissco Wire is today *on the job*—in planes, guns, on destroyers and aircraft carriers. In fact, wherever you find U. S. fighting men and materials . . . there you're almost certain to find Wissco Wire.

Another interesting and vital fact is this: Not only does Wissco Wire go into *finished* products, it also goes into many of the *tools* that make them. Wickwire Spencer meets the demands of industry . . . from tool to finished product . . . for wire, wire, and more wire! Wickwire Spencer Steel Company, 500 Fifth Ave., New York; Buffalo, Chicago, Detroit, Philadelphia, San Francisco, Worcester.

**EVERYTHING IN WIRE.** High and Low Carbon Wire—Round and Flat Wire—Wire for Springs, for Wire Ropes, for use in scores of industries, in a variety of sizes, tempers, grades, and finishes.



**CURIOSITY, INCORPORATED!** Wissco research not only develops new wire products—it also insures you high *uniform* quality built into every inch of Wissco Wire. Another great Wissco Plus is Controlled Manufacture. From ore pile, to blast furnace, to open hearth, to finished product, *every* step of wire manufacture is done right in our own mills.

SEND YOUR WIRE QUESTIONS TO WICKWIRE SPENCER

**WISSCO WIRE**  
BY WICKWIRE SPENCER



*When writing Wickwire Spencer Steel Company please mention Purchasing*



# DESKS AS OFFICE MACHINES

**The individual worker's desk is the basic unit in office production equipment; modern design considers functional needs and increasingly complicated procedures.**

**W**HILE the amounts of paper work and the forces of office personnel are going up, the numbers of desks being produced are steadily going down. Desks still are to be purchased in most markets. But in the meantime, the situation is accelerating a trend which was well under way before the war began. That trend has been to organize offices like production shops and to use desks like production machines. And only by following the production line procedure so that every desk serves as a specialized unit can the oncoming volume of work be turned out with the desks and the floor space available.

The days when the loading and organizing of every desk was a matter of the individual whims of its user, have gone into limbo to join the good old times when every machinist did just as he pleased with his engine lathe and every moulder developed his own foundry methods. Modern office procedures are geared to too high speeds to permit many desks to remain "personal".

The greatest danger of the old fashioned "go as you please" way of using desks, is that papers will be lost, delayed or mishandled. And the more the form work in offices increases (as for example, in the requirement of more reports to Washington), and as shortages of supply dictate a more conservative use of paper, the more careful will be the organizing of desks to despatch form work, and the more controlled will be all desk use.

Speed with control requires the elimination of non-essentials so that more of the real essentials may be employed. More and more offices are adopting the policy; nothing more may be on or in

**By E. L. CADY**

any desk than is needed for the function of that desk. But such policies require studies of desk use.

Over-all size of a desk is usually the first point considered. This, in the good old days, was decided by the dignity or prominence of the person to use the desk, by the floor space available, and by the comparative prices. Now there is more likely to be a study of what is to go on a desk. The desk is selected to be large enough to hold what it must hold, and no larger.

Some of the more modern desks have convertible tops to help solve this top space problem. Such a desk may have a standard chassis which will provide plenty of drawer space for all ordinary purposes, but several tops which may be interchanged to vary the areas of working space. Another type has a roll top, which provides a level and flat working surface when drawn over the normal work surface, a sort of double-deck work surface effect. But in most cases the desk has just one working surface, and this must be the right size or else the employment of floor space and the speed and accuracy of office procedure will be impaired.

The tendency in most offices is toward larger work surfaces. The fact that there is greater use of blue prints, charts and other large papers which must be handled on desks, is one reason for this. Ledgers and the like have more columns to the page and need more desk surface.

A contrary trend towards smaller work surfaces, is sometimes found. This is

based partly upon the need to get more people onto less floor space. But also, it has been learned that compactness and even confinement helps concentration—small offices or cubicles often are preferred by editors, accountants, advertising copy writers and engineers. One of the world's largest advertising agencies, formerly boasting of the acres of desks which could be seen from the door, now has its entire creative floor area broken up into cubicles no one of which can contain more than one desk.

A modern way to select desk sizes is to list the kinds of papers to be handled on a desk, allowing adequate space for convenient handling, and then to list the helps, machines or devices which will be used on the desk. And of these latter there is a surprisingly large list.

## **Accessory Equipment**

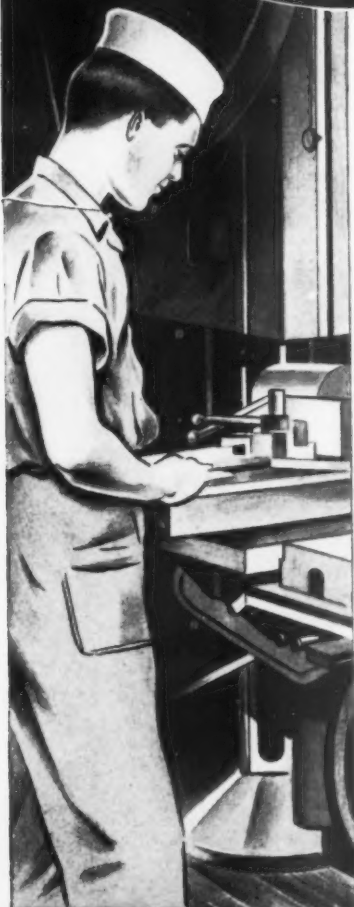
On the desk of an executive, may be a telephone, blotter, fountain pen holder, dictating machine, mail and file basket stack, and other devices to suit his function and his habits. Each needs space.

The desk of a stenographer usually is of the drop center type, which means that the surface of the desk, or of the desk plus an adjacent table assigned to her, must be large enough for all of her papers and tools when the center of her desk is not available for them.

On stenographers' and other clerical desks are kept, ready for instant use, mail and file baskets, staplers, tackers, copy holders, and other work tools as prime necessities.

Added to these in some cases are form writing machines of the types which automatically place carbon copies in

## PAPER INTRODUCED THIS SAILOR TO A MACHINE



Thousands of men, and women too, in our armed forces, in Government offices, in war industries, are learning to use new machines . . . strange, complicated machines that require explaining.

Your instruction manuals, parts lists, other forms of information must stand hard usage, must last longer than ever before. To give them the utmost protection with assurance of long life, specify your printed matter to be bound in

## KROYDON COVER

Complete range of colors, 2 practical weights, 2 economical sizes. Companion lines: Twiltex Cover, Leathercraft Cover.

*Write to the "Cover Paper Mill" for samples and complete information. For your convenience the KROYDON Distributors are listed below*

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BIRMINGHAM  
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Central Ohio Paper Co.  
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MONTREAL, QUEBEC  
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NEW YORK CITY  
Ailing & Cory Co.  
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Miller & Wright Paper Co.  
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PHILADELPHIA  
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PITTSBURGH  
Ailing & Cory Co.  
PROVIDENCE, R. I.  
Storrs & Bement Co.  
PORTLAND, OREGON  
Zellerbach Paper Co.  
RICHMOND, VA.  
B. W. Wilson Paper Co.  
ROCHESTER  
Ailing & Cory Co.  
ST. LOUIS  
Tobey Fine Papers, Inc.  
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Zellerbach Paper Co.  
TOLEDO  
Central Ohio Paper Co.  
TORONTO, ONTARIO  
United Paper Mills  
WASHINGTON, D. C.  
Barton, Duer & Koch  
Paper Co.  
WORCESTER  
Storrs & Bement Paper Co.

locked compartments, for with the increasing complexities and multiplicities of written forms there is increasing tendency to protect against any tampering with the copies of those which have been written and mailed. Add also rows of reference books, since these are becoming more and more common as business becomes more and more technical.

Business machine makers have obeyed the voice of their market and developed a steady stream of desk models of almost everything. And every desk model needs desk surface to hold it.

A manager of a machine shop office in which only twenty clerks are employed, surveyed his desks and found on them many devices which had not been there ten years ago. Among them were time stamps, dictating machines, scales, tape dispensers, tabulating machines, stamp dispensers, stamp affixers, envelope sealers, addressing machines, letter openers of the electrically operated types, and pedestals holding visible records systems. Upon thinking back, he remembered how every one of these had been bought to solve some kink in office procedure. The one thing he did not see was that old curse of office efficiency, the paper piled desk. His office was as clear of junk and as orderly as his shop. But the desk area per person in that office had increased steadily with the years, and was due shortly to increase some more. He was re-planning his desk layout.

The amount of filing and of records handling done at desks, is increasing steadily, and this has its effect upon the adequacy of desk surfaces. Rapid reference indexes and data forms must be quickly visible. To accomplish this, desk drawers in the pedestals often are eliminated, their places being taken by swinging doors on the backs of which the quick reference devices are fastened to be swung into view whenever needed and to be closed and concealed at all other times. Much of the filing which formerly was done in desk drawers and therefore out of the control of the central files, now is brought to the desks in portable filing cabinets which may be taken back to central files after closing hours or may be locked in vaults if important enough.

Some types of desks are built in anticipation that filing cabinets will be placed at one or both ends of them; these cabinets sometimes have moveable tops which can be slid forward clear of the files when the desks are in use but can be pushed back flush with the files to prevent personnel from bumping into them when not in use.

### Desk Arrangement

The matter of what goes into desk drawers is being as well regulated as what goes on top of desks. For it is in desk drawers that "immediate attention" papers get buried for months. The office manager of a life insurance company remarked that the ideal desk drawer will be made of shatter proof glass or of transparent plastic so that nothing can be mislaid or hidden in it.

*When writing Holyoke Card and Paper Company please mention Purchasing*



# Bombers and Paper Work ...and the Mimeograph duplicator



MARTIN B-26—known as "the fightin'est medium bomber in the world."

**They call it "the fightin'est medium bomber in the world."**

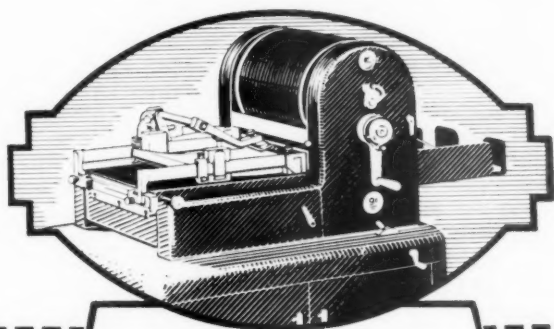
*It takes a lot of parts*, precision and paper work to build a bomber. That's why Glenn L. Martin Company keeps a battery of Mimeograph duplicators rolling . . . keying the production of the Martin B-26 bomber.

*Complete assembly lists of all parts* making up the plane, with general inspection forms and clearance papers, are all produced on the Mimeograph duplicator and bound together in book form.

*"Parts tags,"* to identify and guide each part as it travels from stock room to subassembly, are turned out



PRODUCTION LINE—joining of tail, wing and nose sections of Martin B-26 bombers.



## Mimeograph duplicator

MIMEOGRAPH is the trade-mark of A. B. Dick Company, Chicago, registered in the U. S. Patent Office.

in thousands upon thousands by Mimeograph equipment—clean-cut, black-and-white tags that stand up and stay readable despite rough handling in the plant.

*Our staff of trained duplicating experts* worked with Martin to set up and perfect this system of production control through simplified paper work. We are "on call" for your company to help you solve production problems with the Mimeograph duplicator and its integrated stencil sheets and inks. Telephone the Mimeograph distributor in your community—or write A. B. Dick Company, Chicago.

A. B. DICK COMPANY, Dept. P-342, 720 W. Jackson Blvd., Chicago

Send me full information on the Mimeograph duplicator.

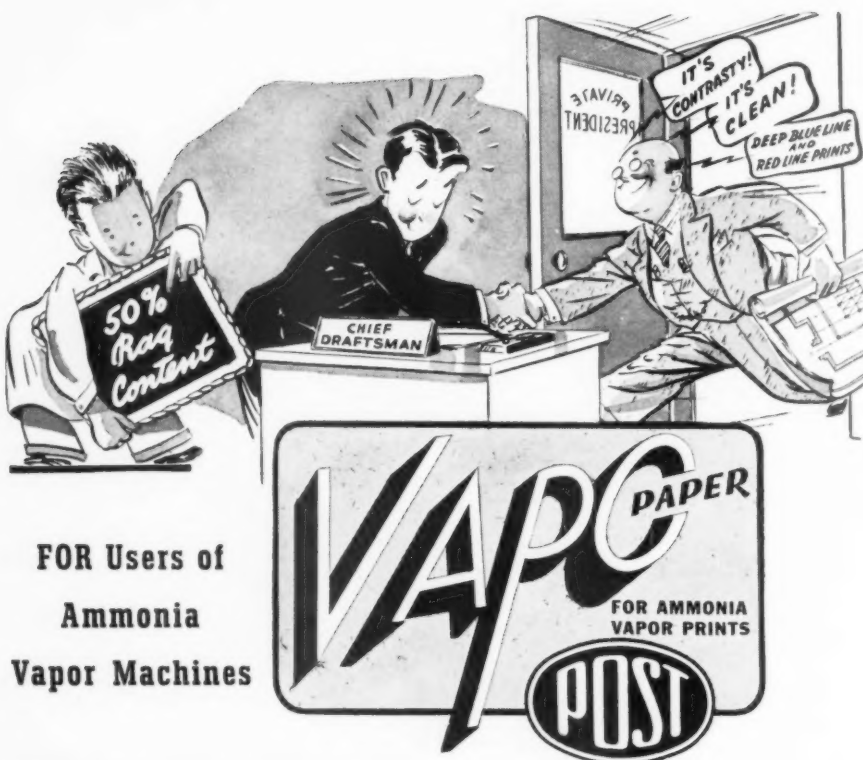
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TITLE .....

COMPANY .....

CITY ..... STATE .....

*When writing A. B. Dick Company please mention Purchasing*



FOR Users of  
Ammonia  
Vapor Machines

## TOUGHER, SHARPER, Dry-Developed Prints

No question about it . . . Vapo-paper comes up with detail as crisply clean and sharp as crossed hairs in a gunsight. Vapo-paper gives you the *intense* contrast you're after—the background clear white—the fine or coarse lines sharp and knife-edged—and the solids deep-dyed in either Post red or blue. Standard Vapo 50% rag content paper makes *extra-tough* prints for *hard* usage. Two speeds are available—regular and fast, and two colors, deep blue—deep red. For *better* prints from your present ammonia vapor equipment—use Vapo-paper.

### GET YOUR FREE TRIAL NOW

At our expense, prove to yourself the superiority of Vapo-paper. Phone your nearest POST Dealer for your free trial supply of the new, improved Vapo-paper. Or send for your supply direct to The Frederick Post Company, Box 803, Chicago, Illinois.

In making your request please include the following information.

- Are you equipped to produce dry developed prints?
- Would you prefer regular or fast, blue line or red line Vapo-paper?

**Another POST Production Booster**  
PHONE OR WRITE YOUR NEAREST POST DEALER

INSTRUMENTS • EQUIPMENT • BLUE PRINT PAPERS

• KINDRED SENSITIZED PRODUCTS •



Multiple shift operation of offices so several persons use the same desk, is reducing the "personalizing" of desk drawer contents. In some cases desks have interchangeable drawers, with one set used by the day shift which takes care of telephone and other immediate work and another set for the night shift which handles the routine or delayable work.

In these cases the drawers not in use are taken to the files room. Cash drawers for each shift are taken to the vault and locked up when not in use so that each cash clerk can be held individually responsible for accuracy.

The standard six-compartment stationery rack drawers are being found inadequate for the multiplicities of forms now in use. Extra racks are available in ordinary times from the desk makers, and if not available now can readily be made in local carpenter shops.

Much of the need for more compartments comes from the use of pre-collated packs of forms complete with carbons and ready for insertion in the typewriter. In some offices these packs, with the extra speed at which they may be handled, make the difference between adequacy and inadequacy of the present stenographic force. But the compartments must be so arranged as to make it easy to find the right pack without any delays for sorting them out.

Positioning of desks in an office, and arrangement of their tops and drawer spaces, all are complicated by the number of electrically powered devices now used on desks. Phones on a few desks, with perhaps buzzers on a few others and lamps on executive desks, used to sum up this problem. And with better overhead lighting, individual lights seemed on their way out even for the executives. Now the electrical systems on ordinary desks may include small switchboards or switches for telephone circuits, lights, signals, dictating machines, power driven calculating machines, mailing machines of assorted types, and so on. Electrically powered typewriters are becoming more common.

### Miscellaneous Considerations

Special modern type desks are solving many of the problems of the large or main offices. But in the small, isolated unit office such as may be used by the power plant engineer, the shipping room manager or the chief inspector the old fashioned roll top desk is staging a come back. The roll top with its pigeon holes is the last word in compactness for the man who must make out in longhand many kinds of reports, tags, and the like. The chief accountant of a trade paper publishing office, not able to have a roll top, solves the problem by rows of specially made pigeon holes which are fastened to the wall just above his head, and other executives fill the top middle drawers of flat top desks with extra trays to obtain the same number of handy pockets.

Desk finishes and paints are receiving more attention. Any desk finish should

*When writing The Frederick Post Company please mention Purchasing*



*experienced paper stretchers*

...to use Rising Papers. Executives... men with vision... waste-conscious men... men who know how to minimize extravagance.

These men will plan profitable printed advertising on economy budgets. They will build direct mail pieces on standard sizes of papers. They will keep their mailing lists up-to-date. But, above all, they will hold high the American ideals of quality that are result-getting and profit-producing.

To these men and to their businesses, Rising Paper Company offers a complete line of bond and writing papers for general correspondence, index card bristols for permanent and semi-permanent records, wedding papers and direct advertising papers.

Consult your Rising merchant today. There is one near you.



**RISING PAPER COMPANY • Housatonic, Massachusetts**

*When writing Rising Paper Company please mention Purchasing*



## GIVE A THOUGHT TO THE CONVEYOR

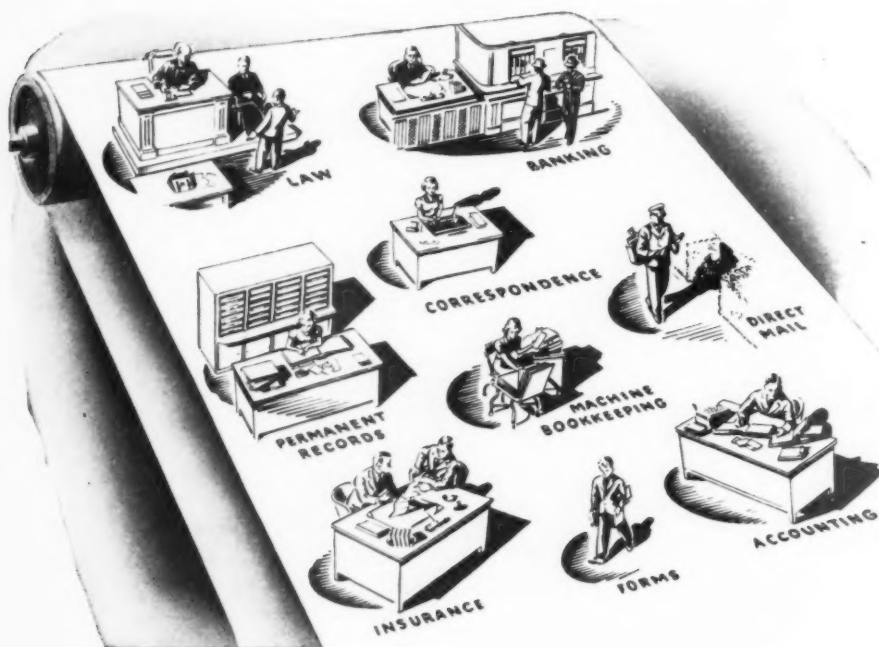
Paper keeps the myriad activities of business and industry on the move. It speeds countless messages, smooths the way of complicated transactions. It links the past with the present, assembles facts and figures, makes vital records instantly accessible.

Give a thought to the papers you use for these important purposes for improper or careless selection can be a source of constant and needless irritation, waste and delay.

For more than four generations, the Byron Weston Company has specialized in the manufacture of fine cotton fibre content papers. The complete Weston line includes a wide selection of ledger, index, bond and machine accounting papers for every record keeping, clerical or correspondence use. They are distributed nationally through leading paper merchants and are available through your printer, stationer or paper supplier.

**MAY WE OFFER YOU** practical help in the selection of the right Weston paper for any purpose? We'll gladly send *Weston's Papers*, a special publication of news, ideas and information of interest to paper buyers. Write for it on your company letterhead.

**BYRON WESTON COMPANY, Dalton, Mass., Dept. H**



IF IT'S WORTH KEEPING, KEEP IT ON A

# WESTON *paper*

Makers of **LEDGERS**: BYRON WESTON CO. LINEN RECORD (Extra No. 1, 100% New White Cotton and Linen Clippings) • DEFIANCE LEDGER (100% Cotton Fibre Content) • WAVERLY LEDGER (85%) • CENTENNIAL LEDGER (75%) • WINCHESTER LEDGER (50%) • BLACKSTONE LEDGER (35%) • **MACHINE ACCOUNTING**: TYPACOUNT LEDGER (85%) • WESTON'S MACHINE POSTING LEDGER (50%) • DEFIANCE INDEX (100%) • WESTON'S MACHINE POSTING INDEX (50%) • WINCHESTER INDEX (50%) • **BONDS**: WESTON'S BOND (Extra No. 1, 100%) • DEFIANCE BOND (100%) • HOLMESDALE BOND (75%) • WINCHESTER BOND (50%) • BLACKSTONE BOND (35%)

be light absorbent rather than reflecting and glaring. Tacky surfaces can be produced with the same waxes which are used for polishing, and are much better for keeping papers in place.

Fire retardent paints are preferred in many offices, especially for wooden desks. The same oil resistant paints which are used to prevent oil seepage into concrete floors also are used on desks in machine shops, for once oil soaks into wood it is difficult to keep that wood from staining papers. Linoleum tops for desks, especially if in colors to match office color schemes, are flat, non-glaring and tacky.

Noise control to prevent fatigue in offices, must start with typists' desks. No typewriter is noiseless if mounted on a desk which has loose parts. A desk can multiply sound like a drum, and structure-borne noises, transferred from desks to floors, etc., are at once harder to trace and more annoying than air-borne noises. Modern desks are fully insulated against noise, and older desks can be tightened up and padded.

Locks on desks, if especially specified, are safer and better than ever before. In many modern offices the custom of locking personal desks has been abandoned, papers which need protection being locked inside of fire-proof filing cabinets or else put into vaults.

The custom of better desk control will grow and develop during the pressure of war production. With the return of peace our offices will be mentally prepared for the finer, more highly specialized desks which are certain to be offered.

1 1 1

### JOHNSON DISCUSSES PROBLEMS OF EDUCATIONAL PURCHASING

Theodore M. Johnson, Manager of Purchases at New York University and treasurer of the Educational Buyers Association, discussed the problems of the university Purchasing Agent under present market conditions, and material regulations, in a recent interview for the *New York Times*. Mr. Johnson said in part:

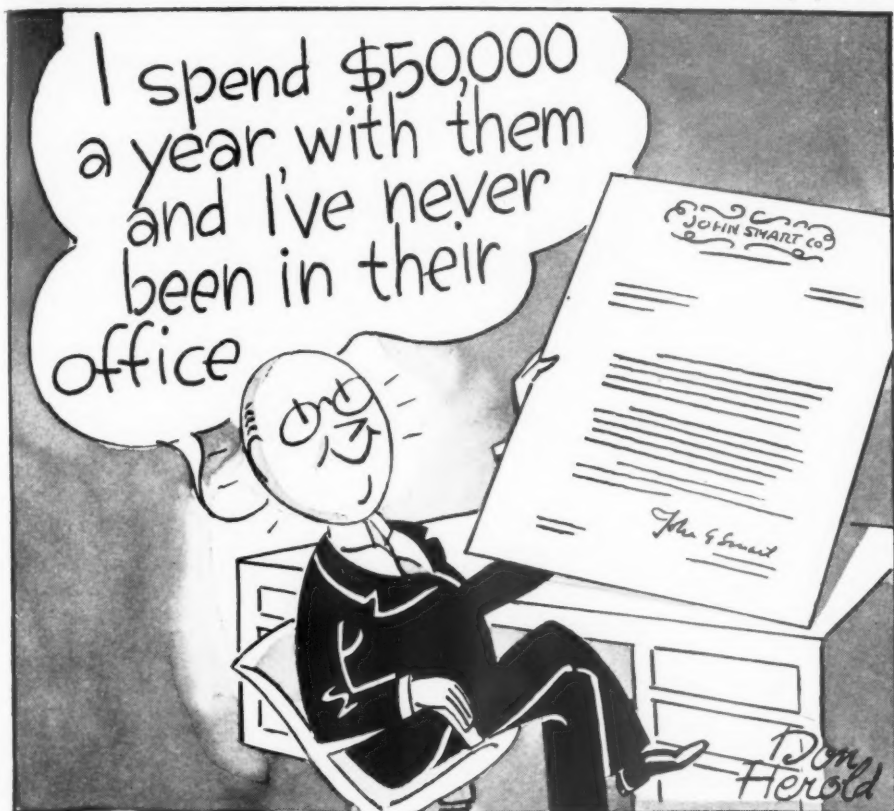
"Imports of scientific materials, which once bulked large in university purchasing, no longer constitute a problem. They have been largely cut off since the war began two years ago.

"However, there are few scientific instruments, formerly imported, that can not be made better by American manufacturers. In addition, many American manufacturers will admit that their products are inferior and will offer them for temporary use with the promise of full refunds toward the purchase of better materials when the war ends.

"Chemistry departments have been hit the hardest, because they are the users of rare chemicals which have always been difficult to obtain, even in the most favorable times. At the suggestion of various purchasing departments, they are beginning to meet their difficulties by making the reclamation of

*When writing Byron Weston Company please mention Purchasing*

The little man in Don Herold's cartoon may be a customer of yours!



"...all I've seen is  
their Letterhead on  
STRATHMORE PAPER"

Did you ever stop to think how many thousands of times a year your letterhead is your *only* representative? Creating the right...or wrong...impression of your firm?

When you choose Strathmore, you know that the right impression *will* be made. The Strathmore watermark means the highest standard in paper-making. It helps to establish *your* standing.

Yet a letter on STRATHMORE BOND, or on STRATHMORE WRITING, costs less than 1% more than a letter written on the cheapest paper you might buy. And on STRATHMORE PARCHMENT, or STRATHMORE SCRIPT, as fine papers as can be made, a letter costs only 2.9% more. Such plus value, for so little cost difference, is sound business economy. Write us for detail of "Letter" Costs.

OUR PART IN THE WAR PROGRAM: Strathmore is devoting an important portion of its capacity to the production of papers for communication, records, blue prints, charts, maps, and other uses which are essential to the preparation and use of war materials.

Strathmore Paper Company • West Springfield, Massachusetts

## STANDARDIZE ON STRATHMORE

When you specify STRATHMORE for a letterhead, you know you will get a quality paper ...with a really fine reputation...at a moderate cost. STRATHMORE means value. Value to your business because it makes a fine letterhead. Value, too, because it keeps the budget down.

This series appears in:

FORTUNE  
TIME  
BUSINESS WEEK  
UNITED STATES NEWS  
NEWSWEEK  
ADVERTISING & SELLING  
PRINTERS' INK  
SALES MANAGEMENT  
FORBES  
TIDE

# STRATHMORE

MAKERS  
OF FINE  
PAPERS

When writing Strathmore Paper Company please mention Purchasing



## SELECT PARSONS PAPERS TO INSURE *Business Prestige*

The character of a business establishment is reflected by the quality of its stationery. Be sure your firm makes the best possible impression by using PARSONS RECORD PAPERS for letterheads, records and documents of all kinds.

Backed by 80 years' experience, they are without peer in the fine paper field. Cotton fibers give them strength to withstand hard use, then last for generations without showing signs of wear. The smooth writing surface can't be harmed by erasures or thumbing. Write for samples today.

*Sample books of these grades can be obtained from your Printer, Lithographer, Parsons Merchant or direct from the mill.*

**PARSONS RECORD PAPERS . . . OLD HAMPDEN BOND • GOTHIC BOND  
LACONIA BOND • SCOTCH LINEN LEDGER • PARSONS LINEN LEDGER  
DEFENDUM LEDGER • MERCANTILE RECORD • PARSONS INDEX**

# Parsons

**BONDS  
LEDGERS  
INDEX**

PAPER COMPANY • HOLYOKE • MASS.

**STAR STAPLERS**

The best way to fasten papers. Needed on every desk. Use economical standard size staples. Built to last. Guaranteed against defects.

**STAR PAPER FASTENER CO., NORWALK, CONN.**



**Model S101 List Price \$6.00**  
**Purchasing Agents, Here's our offer:**

... Write us a letter telling us where to send it, and we will send you one of the latest Model Star machines to try out. There's no obligation and the transaction won't cost you a cent!

Many other models to choose from.  
Circulars and prices on request.

chemicals an integral part of their teaching programs.

"Chemicals which used to be poured down the sink at the end of an experiment are now being saved, and the students are being taught how to reclaim them. Thus the students are really learning more as a result of material restrictions and necessities.

"A motivating factor in the increased reclamation of materials in chemistry departments is the fear on the part of the instructor that if scarcity becomes more pressing, they may be forced to perform some experiments in a single demonstration for an entire class, and that is poor education.

"Right now we are having trouble in obtaining such simple materials as glycerine and acetone for our chemistry departments. We can't get slides and cover glasses for biology studies, since most of them come from Czechoslovakia, Germany and Japan. Although American production is expanding in this field, it is far behind demands. Radio and electrical equipment is also difficult to get.

"This creates a complicated situation. While many potential defense workers are coming to the schools to study, the very materials needed for that study are being used in the war program itself.

"University Purchasing Agents are working overtime trying to find substitutes for all sorts of supplies. Wooden packing boxes are saved to be used as transfer files instead of buying new steel cabinets, for example.

"No longer does the college Purchasing Agent sit in his office waiting for salesmen to call. Instead, he is out visiting pawnshops in search of gauges and other items that can no longer be obtained through regular channels. Faculty members who would have objected to used instruments two years ago are now grateful when we can turn up a pair of calipers found in a Bowery hock shop.

"I have a great regard for an 'Uncle' in Newark who is doing a beautiful job for us in turning up slightly worn gauges. Even the maintenance department is glad to get pawnshop paint brushes these days."

1 1 1

### SUBCONTRACTING FOR DEFENSE

Production is a vital problem today. Any information which contributes to increased efficiency will be welcomed by every company at present handling defense work; more than welcome to manufacturers who want to obtain defense contracts. "Subcontracting for Defense: A Study Prepared in the Interest of Stabilizing Employment," a report just issued by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, contains such information. This study outlines the methods followed by 28 companies that have been outstandingly successful in meeting the problems of prime contracting or subcontracting. It includes a section on obtaining prime contracts for various types of supplies and equipment required by the Government; describes sources of



information on governmental requirements and on procurement setup and procedure. It discusses the administration of and responsibility for subcontracting in the prime contractor's organization, and steps commonly followed in selecting and scheduling work to be farmed out. The report also shows a variety of sources which primary contractors use to locate and contact subcontractors, and methods adopted for appraising their facilities and skill.

The procedure followed in obtaining a subcontract is thoroughly covered in the report by a presentation of details of the methods used by successful subcontractors. Some of the other points covered are: the assistance typically given by the prime contractor to the subcontractor, production control procedures for both the prime contractor and the subcontractor, and the basis for pricing subcontract work. The study includes a number of practical charts and diagrams illustrating methods and procedures successfully used by contributors to the survey.

A copy of this report is available without charge to executives who request it on their business stationery. Address: Policyholders Service Bureau, Metropolitan Life Insurance Company, One Madison Avenue, New York City.

#### COOPERATION WITH THE SALVAGE PROGRAM

Pledges of participation in the Government's program to salvage materials vital to the war effort are coming in to the War Production Board from retail merchants in all sections of the country at the rate of thousands per day. More than 15,000 replies already have been received from store owners stating that they are cooperating. The rate of return is increasing daily.

Conservation efforts of these retailers involve a thorough house-cleaning of their stores to dispose of all waste materials and the appointment of employees specifically charged with supervision of continued collection and disposal of waste either by sale to dealers or by gift to charities, schools or other organizations.

Merchants who sign the pledge of participation in the salvage program are given the right to display window emblems, sent them by the Bureau, containing the message "This store is helping make weapons from waste by salvaging waste paper, old rags, scrap metal, old rubber."

Stores which have not received pledge cards are requested to write to the Bureau of Industrial Conservation, War Production Board, Washington, D. C.

**Frank M. Foy** has been appointed Commissioner of Purchases for the City of Cleveland. Mr. Foy served as Deputy Commissioner of Purchases for nine years, and was named Acting Commissioner in March, 1941, after the death of Commissioner Patterson.

## "I WAS BOGGED DOWN WITH DETAILS..."



...until these free time-savers helped me clear my mind and my desk!"

### 1. "21 WAYS TO KEEP A CLEAR DESK"

Shows how to avoid "junk heap" desks, organize your work. Gives you specific, tested ways to clear away details, step up efficiency, pin down responsibility. Outlines proven time-savers to help men in 6 different office jobs.



### 2. HOW TO SPEED ROUTINE

Business Forms booklet shows how to design up-to-date printed forms that assign work, tell what's to be done, when and how to do it, and make sure it gets done right—and on time. Booklet carries check list to test your forms, uncover needed improvements.



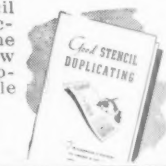
### 3. QUICK WAY TO ORDER PRINTING

Handy layout and order sheets are ruled for quick, accurate layout of printed forms. They eliminate errors, misunderstandings, expensive alterations. Provide all information essential to ordering. Specify pica or elite typewriter spacing.



### 4. "GOOD STENCIL DUPLICATING"

... helps you broadcast messages quickly and economically. Shows how to operate your equipment at peak efficiency. Analyzes the stencil process with practical tips for the operator. Tells how to get 3000 clear copies from a single stencil.



### 5. HOW TO HANDLE RUSH JOBS

Need copies quickly? Use your gelatin or spirit duplicator. "Duplicator Facts" shows how to get best results on either machine... tells how to select duplicator paper. Also get the Operating Guide, a handy, trouble-shooting chart to help you get clearer copies.



### 6. HOW TO SELECT THE RIGHT PAPER

File-size sample books of Hammermill Bond, Duplicator and Mimeobond help you choose quickly the correct color, finish and weight of paper for office use.



Use this valuable coupon

Hammermill Paper Company, Erie, Pa.

Please send me, free, the office helps checked:

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

Name ..... Position .....

(Please attach coupon to your company letterhead)

PUR-MAR

## NAVY AWARDS GIVEN TO FIRMS FOR OUTSTANDING WORK

**S**IXTEEN private firms and two Navy Yards have been awarded the Navy "E" pennant in recognition of outstanding performance in the fulfilling of Navy contracts. The eighteen were chosen because they have exceeded production schedules, because of the outstanding quality of their work and general spirit of the personnel and because of other conspicuous services rendered to the Bureau of Ships' program.

The Navy "E" pennant for nearly 40 years has been the honor symbol displayed on ships of the U. S. Navy that have excelled in certain performance tests. Its display is a mark of distinction throughout the Fleets. The Navy "E" is traditionally a competitive award.

In addition many firms working on Naval Ordnance have received the award of the U. S. Navy Bureau of Ordnance Flag

and the Navy "E" pennant, for outstanding work in fulfilling Navy ordnance contracts. Suitable ceremonies have marked the presentation of the awards, and the firms proudly display the flag and pennant below the national ensign.

During the ceremonies attendant upon the presentation of the Navy "E" pennant to the John A. Roebling's Sons Company, Trenton, on January 22, Lieutenant Commander Warren A. Shaw tossed a finger ring made from a German incen-



The flags go up as Admiral W. T. Cluverius, U.S.N., presents Monsanto Chemical Company with the Navy "E" for excellence in production of naval ordnance matériel.

### Esleeck THIN PAPERS

In an endeavor to conserve essential raw materials, the Government has requested that the maximum weight of rag content Onion Skin and Manifold papers be substance 9. We have decided therefore, to discontinue substance 10 EMCO ONION SKIN.

As a substitute, we strongly recommend substance 9 FIDELITY ONION SKIN, which is the identical quality and price. This paper is stocked in every large city in the U. S. and it has been nationally advertised for many years. Those merchants who have been stocking both substance 9 White Fidelity Onion Skin and substance 10 White Emco Onion Skin, will be in a position to concentrate on a larger and more complete stock of FIDELITY ONION SKIN. This will allow them to give better service and still reduce the total number of stock items.

FIDELITY ONION SKIN will be stocked at the Mill in White, substance 7½ and 9—Cockle, Smooth and Glazed finishes. It will also be carried in 7 Colors—Cockle and Smooth finishes—substance 9 only. The colors will be Blue, Canary, Cherry, Green, Tuscan, Pink and Goldenrod.

If you have been using or recommending Emco Onion Skin, we hope that you will cooperate with us by substituting FIDELITY ONION SKIN—an outstanding value in 100% rag content Thin Papers.

ESLEECK MANUFACTURING CO.  
TURNERS FALLS, MASS.

diary bomb into one of the open hearth steel furnaces, "—to return it to the Axis powers by the fastest means of transportation known!"

The Monsanto Chemical Company's plants in Anniston, Alabama, and at Monsanto, Tennessee, received their awards from Admiral Wat. T. Cluverius. The brief ceremonies at each plant, both broadcast over southern radio networks, were carried out without stopping operations and without the loss of any production. The plant at St. Louis also received the award.

The Atha Works of the Crucible Steel Company of America received the coveted Navy "E" award on November 25th. Rear Admiral W. H. P. Blandy presented the award to A. E. Van Cleve, Manager of the Atha Works, before 7,000 employees and citizens. The organization has had outstanding success in the manufacture of projectiles of all calibers, bombs, gun barrels and component parts, and has aided the Government in the development of the world's most modern ordnance equipment.

The McKees Rocks plant of the McKay Company, normally manufacturers of commercial chain and now almost entirely engaged in the fulfillment of Naval contracts, received their award on January 30, 1942. Captain F. L. Oliver, U.S.N. (Ret.), made the presentation to Thomas J. McKay, president of the company.

*When writing Esleeck Manufacturing Co. please mention Purchasing*

At the ceremony during which the Navy "E" pennant and the Naval Ordnance flag were awarded to his company, James H. Robins, President of The American Pulley Co., declared that although 25 agencies of the Federal and State Governments come in contact with American Pulley activities, "So far, they have deprived us of just three rights—which we never had any use for anyway. The right to exploit and coerce. The right to misrepresent. The right to mismanage."



Lt. Commander C. A. Misson, U.S.N., awards Navy "E" emblem to Edward McCauley, representing about 800 employees of the American Pulley Co., Phila., Pa.

American Pulley, leading manufacturer of industrial power transmission equipment and pressed-steel hand trucks, as well as steel ordnance stampings and other war material, is now devoting over 85% of its output to direct or indirect war production. Rear Admiral W. C. Watts, U.S.N., retired, who awarded the pennant, said that "much of the accuracy of our naval gunfire is in your hands."

Nearly 1000 employees and guests of the company were also addressed by U. S. Senator James J. Davis and by Hon. George Wharton Pepper, former U. S. Senator from Pennsylvania.

#### Commercial Concerns Which Have Received the Bureau of Ordnance Award

Arma Corporation, Brooklyn, N. Y.  
Bausch & Lomb Optical Co., Rochester, N. Y.  
Cameron Iron Works, Houston, Texas  
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.  
Fisher Body Division, General Motors Corp., Detroit, Michigan  
Ford Instrument Co., Long Island City, N. Y.  
International Nickel Co., Huntington, W. Va.  
Keuffel & Esser Co., Hoboken, N. J.  
Midvale Co., Nicetown, Philadelphia, Pa.  
Miehle Printing Press & Mfg. Co., Chicago, Ill.  
Norris Stamping & Mfg. Co., Los Angeles, Calif.  
Northern Pump Co., Minneapolis, Minn.  
Pollak Mfg. Co., Arlington, N. J.  
Textile Machine Works, Reading, Pa.  
Bantam Bearings Corporation, South Bend, Indiana  
Consolidated Machine Tool Corporation, Rochester, N. Y.  
Eclipse Machine Div. of the Bendix Aviation Corp., Elmira, N. Y.  
Erie Forge Co., Erie, Pa.

Lakeside Bridge & Steel Co., Milwaukee, Wisconsin  
Lansdowne Steel & Iron Co., Morton, Pa.  
Mesta Machine Co., Pittsburgh, Pa.  
Standard Steel Wks. Div. of the Baldwin Locomotive Wks., Burnham, Pa.  
The Carrier Corporation, Syracuse, N. Y.  
The Erie Pa. Works, of G. E. Co., Erie, Pa.  
Westinghouse Elec. Elevator Co., Jersey City, N. J.  
American Locomotive Company, Schenectady, N. Y.  
Bethlehem Steel Company, Bethlehem, Pa.  
Bridgeport Brass Company, Bridgeport, Conn.  
Carnegie-Illinois Steel Co., Homestead, Pa.  
Continental Gin Company, Birmingham, Ala.  
Crucible Steel Company of America, Harrison, N. J. (Crucible Steel Midland Plant,

Midland, Pa.)  
Goss Printing Press Company, Chicago, Ill.  
Heppenstall Company, Pittsburgh, Pa.  
Ingersoll Milling Machine Co., Rockford, Ill.  
National Forge & Ordnance Co., Irvine, Pa.  
SKF Ball Bearing Company, Phila., Pa.  
The Monarch Machine Tool Co., Sidney, Ohio  
Triumph Explosives, Inc., Elkton, Md.  
Vickers, Inc., Detroit, Michigan  
Sandusky Foundry & Machine Co., Sandusky, Ohio  
American Steel Foundries, Inc. (Granite City Plant), Chicago, Ill.  
Beatrice Steel Tank Mfg. Co., Beatrice, Nebraska  
Bethlehem Foundry & Machine Co., Bethlehem, Pa.



The fastest typist on your staff cannot strike a key until the paper is IN her typewriter. That's where curled carbon holds up the work. That's why . . .

It pays to give your typists **DAWN**  
OLD TOWN'S amazing new *CurlPROOF* CARBON

DAWN gets the job into the machine quicker . . . turns it out neater. Saves time. Saves temper. Saves mistakes. REASON: DAWN STAYS FLAT, never curls, is easy and clean to handle. Try this *speedy* carbon. For test samples write OLD TOWN RIBBON & CARBON CO., Inc., foremost makers of ribbons and carbons for every use. Address Dept. A. 6.



Ask your Office Supply Dealer . . .



**OLD TOWN** *Ribbons & Carbons*  
"MAKE A GOOD IMPRESSION"

General Offices & Factory • 750 Pacific St., Brooklyn, N. Y.  
59 E. Van Buren St. 609 Mission Street  
Chicago, Illinois San Francisco, Calif.

Every sheet of OLD TOWN carbon trade-marked and GRAD marked. Know what you buy . . . get what you pay for





## DON'T BE OLD-FASHIONED ABOUT FASTENING PAPERS



Bulky, insecure, old-time methods of fastening papers are being replaced by the efficient Ace Stapler method. For, Ace Stapling Machines and Staples fasten papers instantly. The Ace Staple Remover takes out staples neatly, quickly. Only the new Aceliner Stapler, with plastic handles in 4 different colors, Staples, Pins, Tacks and Hand Fastens... combines 4 operations in one machine! Built like a watch... wears like a piledriver... guaranteed for a lifetime. Sold exclusively through dealers for... **\$6.00**

### A FEW OF MANY USERS OF ACE STAPLING EQUIPMENT

|                  |              |
|------------------|--------------|
| Offices          | Florists     |
| Private Industry | Dry Cleaners |
| Filing Clerks    | Furriers     |
| Shipping Clerks  | Printers     |
| Engineers        | Banks        |
| Artists          | Schools      |
| Professional Men | Hospitals    |
| Homes            |              |

**ACE FASTENER CORPORATION**  
3415 N. Ashland Ave., Chicago, Ill.



Brown & Sharpe Mfg. Co., Providence, R. I.  
Edward G. Budd Mfg. Co., 2450 Hunting Park Ave., Philadelphia, Pa.  
Chase Brass & Copper Co., Inc., 236 Grand Street, Waterbury, Conn.  
Control Instrument Co., Inc., 67—35th St., Brooklyn, N. Y.  
Doehler Die Casting Co., Pottstown, Pa. (Brooklyn, N. Y.; Toledo, Ohio; Bata via, N. Y.)  
Federal Screw Works, 3401 Martin St., Detroit, Mich.  
Flour City Ornamental Iron Co., Minneapolis, Minn.  
General Bronze Corporation, 3419—10th St., Long Island City, N. Y. (4301—38th St., Long Island City, N. Y.)  
Hoosier Lamp & Stamping Corp., 1937 Morton Ave., Evansville, Ind.  
Kropp Forge Company, Chicago, Illinois  
Matam Corporation, 360 Furman St., Brooklyn, N. Y.  
P. R. Mallory & Co., Inc., 3029 E. Washington St., Indianapolis, Ind.  
Monsanto Chemical Co., 1700 South Second St., St. Louis, Mo. (Anniston, Ala.; Monsanto, Tenn.)  
Mueller Brass Company, Port Huron, Mich.  
National Cash Register Co., Dayton, Ohio  
National Fireworks, Inc., West Hanover, Mass.  
New England Auto Products Corporation, Pottstown, Pa.  
New York Air Brake Co., Watertown, N. Y. (Plant), (420 Lexington Ave., New York, N. Y., office)  
Pennsylvania Electric Steel Casting Co., Hamburg, Pa.  
Polaroid Corporation, 730 Main St., Cambridge, Mass.  
Pontiac Motors Division, Pontiac, Mich.  
Rheem Manufacturing Co., 30 Rockefeller Plaza, New York, N. Y. (Richmond, California; Newark, N. J.)  
John A. Roebling's Sons Co., 640 S. Broad St., Trenton, N. J.  
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The American Pulley Co., 4200 Wissahickon Ave., Nicetown, Philadelphia, Pa.  
The Fulton Sylphon Company, Knoxville, Tenn.  
The Louis Allis Co., 427 East Stewart St., Milwaukee, Wis.  
The McKay Company, McKay Bldg., 1005 Liberty Ave., Pittsburgh, Pa.  
The Magnavox Co., Fort Wayne, Indiana  
The Permold Works, 6700 Grand Ave., Cleveland, Ohio  
The Warner & Swasey Co., 5701 Carnegie Ave., Cleveland, Ohio  
Treadwell Engineering Co., Easton, Pa.  
Tredegar Company, Richmond, Virginia  
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Howard L. White Co., 61 South Oxford St., Brooklyn, N. Y.  
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### Naval Shore Establishments

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Naval Ammunition Depot, St. Juliens Creek, Va.  
Naval Gun Factory, Washington, D. C.  
Naval Ordnance Plant, Baldwin, Long Island  
Naval Powder Factory, Indian Head, Md.  
Naval Torpedo Station, Alexandria, Va.  
Naval Torpedo Station, Newport, R. I.  
Naval Proving Ground, Dahlgren, Va.  
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What does this mean to you?

If you have a priority rating, you can expect to get Webster's quality carbon papers and typewriter ribbons to the fullest extent possible. But please co-operate and furnish this information on every order. There may be some unavoidable delays, some shortages; but please be patient. Don't blame your stationer or us. The war program has created a vast demand for our products. We're doing everything possible to meet it.

If you are not eligible for a priority rating, you may experience many delays and disappointments. We know you will understand this situation. To win this war a lot of us will have to give up many things.

However, we are looking forward to the time when we can again supply our many loyal customers with all the Webster products they need whenever they need them.

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U. S. Government Dept.

Bureau of Standards, Washington, D. C.

1 1 1

### INDUSTRIAL PLANTS COOPERATE IN U. S. TRAINING PROGRAM

Facilities of industrial plants in many sections of the country are being made available this year to help the U. S. Office of Education train thousands of "out-of-school" youths who will hold mechanical jobs during and after the war.

Administered under a \$15,000,000 congressional grant, the program is being centered in non-urban districts where regular trade schools are not available. Direction in each state is under a board of vocational education, which is working with local school boards, industrial firms and other groups to arrange classes.

Typifying industry's cooperation is the class at Frankfort, Ky., where 30 young men are meeting four nights a week at the Schenley Company's machine shop, under direction of plant technicians who are serving as instructors. Arc and acetylene welding, metal forging, elementary electricity, wood-working and motor repair work are included in the course.

It was pointed out that the program would not only provide a reservoir of partially trained manpower for war industry, but that farm youths—who constitute 75% of the trainees—would be better fitted to help maintain existing farm equipment during the war emergency when new machinery is at a premium. Many of the graduates are also taking over the peace-time jobs of small town technicians who have been employed in war industry production.

1 1 1

**Philip Stovall** has been appointed Purchasing Agent of the Texas Hotel, Fort Worth, Texas, succeeding G. K. Williamson, who resigned to join the staff of the Jack Tar Courts at Hot Springs,

**Ora A. Young** has been appointed Purchasing Agent for the Towmotor Co., Cleveland. He formerly served in a similar capacity with the Johnson Rubber Co. of Middlefield, Ohio, which closed its plant in January.

**Frederick Wahlert**, Long I Grotto Post, American Legion, is doing his share in this World War the Second. Mr. Wahlert, who is now president of the Pulmosan Safety Equipment Corporation has arranged that each week he will match for his employees' defense stamps bought on the Postal Savings Plan, until the employees can turn these savings in for a Defense Bond.

## How can a Purchasing Agent..



## HELP WIN THE WAR?

Without glory, almost without recognition, Purchasing Agents are making vital contributions in America's fight for freedom.

To crush the hordes of tyranny, America must have overwhelming superiority in armament—and because every plane, ship, tank and gun starts with a drawing pencil—Purchasing Agents are specifying A. W. Faber's WINNER Techno-TONE Drawing Pencil, America's standard of excellence.

Made in 17 uniform tones of rich black, WINNER Techno-TONE guarantees 4 Freedoms Pencil Craftsmen demand—Freedom from Scratching, Smudging, Flaking and Gritty Hard Spots.

The men in your drafting room are familiar with the name and fame of A. W. Faber, will welcome WINNER Techno-TONE. True, it costs a few pennies more, but what are trifles when vital defense projects are at stake? It is your duty to provide the finest tools available for the job.

Samples and prices will be sent promptly on request. Dept. PA-3.

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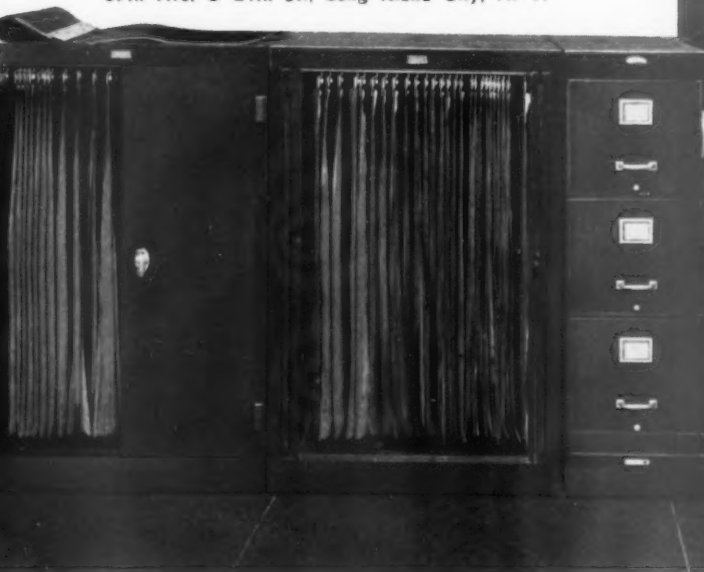
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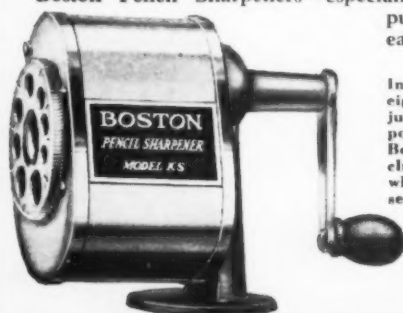


As gentle (on the budget)  
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# Kis



Forgive us but we couldn't resist introducing a baby into Boston Pencil Sharpener advertising. After all, when famous Model KS is as gentle (on the budget) as a baby's Kis, why not say so? You and all your organization will find Boston Pencil Sharpeners—especially Model KS—easy to purchase, easy to use, easy to maintain.



Incidentally, KS has an eight-hole guide which adjusts perfectly to fit any popular-size pencil. Like all Bostons, KS features the exclusive 15 cutting edges which give you 25% more service.

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PENCIL SHARPENERS

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For your convenience, charges for telegrams telephoned-in appear on your telephone bill

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#### "KEEP 'EM ROLLING"

The Timken Roller Bearing Company at Canton, Ohio, discloses the fact that all railroad car demurrage has been eliminated in all Timken plants so that cars may be immediately released and sent back into national transportation service with the least possible delay.

"It is a very easy thing to do," says Walter C. Sanders, General Manager of the Timken Railway Division. "We simply make the head of every department in our various plants see to it that no car, either incoming or outgoing, is retained over 48 hours. We have explained to our department heads that it is desirable to load and unload the cars in less than 24 hours or, if possible, in 1 hour, because the cars are badly needed elsewhere.

"Furthermore," says Sanders, "freight car storage is expensive. The average box car contains about 360 sq. ft. of floor space and from 3000 to 3500 cu. ft. of capacity. At \$5.50 demurrage per day, this amounts to 46c per square foot per month. The average rental of space in common storage warehouses costs 3c per sq. ft. per month. This includes a sprinkler system and heat.

"Railroads allow shippers 48 hours free unloading time. After this time has expired, the shipper is allowed four days at \$2.20 per day, exclusive of holidays or Sundays. After this, shippers pay \$5.50 per day including holidays and Sundays."

#### PREFABRICATED CONCRETE FOR DEFENSE PLANT CONSTRUCTION

A revolutionary new prefabricated concrete construction system designed to smash all records in high speed defense plant construction and described as utilizing a minimum of vital materials was announced here today by W. P. Witherow, Jr., president of The Cementstone Company, Pittsburgh.

According to Mr. Witherow, the system involves specially engineered shapes constituting columns, girders, long or short span floor or roof slabs, and wall panels. These individual units, which fit together to form a building, are made of pre-cast and reinforced concrete of exceptional durability and strength, one foot-square-columns alone having been tested to a load of over 534,000 pounds. With a minimum of effort and expense, plants thus erected can be made larger or smaller, or even dismantled and moved to keep pace with changing conditions.

"Defense necessity was the mother of our invention," said Mr. Witherow. "There is an urgent need for structures which use a minimum of critical materials and which can be erected with ease and speed, even in the dead of winter. We set out to solve the problem and believe we have the answer."

W. W. Lyon has resigned as Purchasing Agent for Madison County, N. Y., on account of ill health.



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# Among the ASSOCIATIONS

## NATIONAL OFFICERS AT BOSTON

"National Association Night" was observed by the New England Purchasing Agents Association on February 2nd. Speakers at the dinner meeting included F. Albert Hays of Boston, N.A.P.A. President, George A. Renard of New York, Executive Secretary, and Bernard G. Byrne of Providence, District Vice President.

Mr. Renard emphasized that capable men are the biggest bottleneck in the tremendous job of war production, and predicted that top executives might be drafted from civilian industry to speed up the job. He also predicted rising costs, which would force an upward revision of present price ceilings as maximum production is reached in many industries and no further advantages in unit costs could be expected from greater production volume. Other probable developments are more rigid control of raw materials and the concentration of manufacture of civilian goods in a few efficient plants. Mr. Hays defended the record of the "dollar a year" men in the defense agencies and took sharp issue with the report of the Truman committee.

The 14th annual Industrial Exhibition sponsored by the Association will be held at the Hotel Bradford, Boston, on March 16th and 17th.

## PURCHASE-SALES MEETING AT CHICAGO

The second annual Purchasing-Sales Meeting of the Chicago Purchasing Agents Association was held at the Hotel Sherman, February 19th. Patterned after radio's famous "Information Please!" hour, the theme centered upon three principal topics: (1) The relation between buyer and seller; (2) Making sales and sales calls more effective; (3) The War Program—the problems of the war and our Victory program. The program was in charge of V. C. Logan, Branch Manager of Remington-Rand, Inc., and H. L. Brueggemann, Director of Purchases for the Acme Steel Co.

Asking the questions for the sellers was Lee E. Ragsdale, Sales Manager of the Western Union Telegraph Co., and for the purchasers B. B. Countryman, Director of Purchases for the Minnesota Mining & Mfg. Co., St. Paul and Vice President of District No. 3, N.A.P.A.

On the answering end of the questions, the sales experts included Harold C. Buell, General Sales Manager of the American Bank Note Co.; A. G. Philips, General Sales Manager of Allied Mills, Inc.; Alex G. Shennan, Vice President

and General Manager, International Tag & Sales Book Co.; and Arthur E. Blackstone, Chicago District Manager of the Dictaphone Corp. The purchasing experts included: R. A. Doyle, Purchasing Agent of the Soya Products Div., Glidden Co.; Carl J. Gross, Assistant Manager in Charge of Purchases, Federal Metals Div. of American Smelting & Refining Co.; F. W. Sinsabaugh, Purchasing Agent of Bradner, Smith & Co.; and E. Van Vechten, Purchasing Agent of United Air Lines. George L. Meyer, Jr., Vice President of Stewart Warner Corp., and General Manager of its Stewart Die Casting Division, answered the questions from the viewpoint of the plant operator.

## NEW ORLEANS MEETINGS

Alvin Christovich, Chairman of the Speakers Bureau, Office of Civilian Defense, addressed the Purchasing Agents Association of New Orleans at a dinner meeting, February 9th, at the St. Charles Hotel. His topic "The Important Business of Civilian Defense."

The Association's "Executive Night" meeting was held on February 27th. Speakers were F. Albert Hayes of Boston and J. Frank Kelley of Chattanooga, President and Vice President of the N.A.P.A.

## HAYES AT MILWAUKEE

F. Albert Hayes of Boston, President of the N.A.P.A., addressed the February 10th meeting of the Milwaukee Association of Purchasing Agents, at the Elks Club, outlining the responsibilities and opportunities of purchasing men in the national Victory program. B. B. Countryman of St. Paul, Vice President for District No. 3, reported on association activities. An interesting special feature of this meeting was the presentation of certificates to members of the class in purchasing at Marquette University who had successfully completed the course conducted during the past semester under the leadership of Prof. George W. Knick and Joseph W. Nicholson, City Purchasing Agent.

## LADIES' NIGHT AT BALTIMORE

The Purchasing Agents Association of Baltimore observed its twenty-second annual Ladies' Night with a dinner dance at the Lord Baltimore Hotel on February 20th. A. H. Schultz was chairman of the committee in charge, assisted by L. I. Whiteford, J. Horner, I. J. Jericek, R. A. Anderson, A. J. Peroutka, H. G. Ross, and J. J. Foster.

## INTERNATIONAL EXPERT ADDRESSES NEW YORK ASSOCIATION

The February meeting of the Purchasing Agents Association of New York was held at the Builder's Exchange Club on the 17th. Speaker of the evening was James G. McDonald, former head of the Foreign Policy Association and League of Nations High Commissioner for German Refugees, now President of the Brooklyn Institute of Arts and Sciences. In extensive travels through Europe and the Orient, Mr. McDonald acquired a first hand knowledge of foreign affairs, trends of thought, and outstanding political personalities. This appearance at the New York meeting was a return engagement. Two years ago he spoke on "The War—First Phase." Now his topic is: "This is a Total War."

The meeting was preceded by a forum devoted to current problems in procurement caused by governmental wartime regulations. James L. Crosbie of the Dexter Folder Company was in charge of the discussion.

## ST. LOUIS ASSOCIATION

Robert L. Whaley, Regional Business Consultant of the U.S. Department of Commerce, addressed the St. Louis Purchasing Agents Association at the monthly meeting, February 17th, at the York Hotel. He spoke on "The Contribution of the Department of Commerce to Business in Wartime." William Krueger of the Ralston Purina Company presented the commodity charts and led in a discussion of the business situation and outlook.

## ALBANY MEETING

The Purchasing Agents Association of Eastern New York met at the Ten Eyck Hotel, Albany, on February 19th. The program was in the form of an open forum discussion on current purchasing problems. James Perry of the Gifford-Wood Company led the discussion on substitute materials, and Willard Jones of Adirondack Foundries & Steel Corp. led the discussion on priorities, with special attention to Priorities Regulation No. 1, the new PD-1a forms, and the Production Requirements Plan.

## ZELOMEK ADDRESSES ROCHESTER BUYERS

A.W. Zelomek, President of the International Statistical Bureau and economic consultant to the N.A.P.A., addressed the February 25th meeting of the Rochester Purchasing Agents Association, at the Rochester Club. Mr. Zelomek analyzed economic factors in the





# VULNERABLE?



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It's a blazing demon in action—but during those idle weeks or months when it's in shipment or in storage, its vital nerve centers are vulnerable to the attacks of moisture and rain, salt air and water, dirt and dust.

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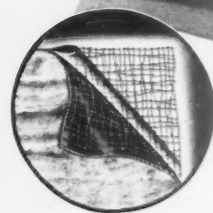
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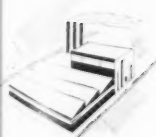
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Only when you get a sample in your own hands can you realize that a *paper* can be so strong — so tough — and impervious to moisture. There is no other material like FIBREEN. In rolls and blankets of many widths.

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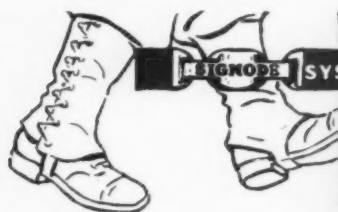
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present business situation as they affect commodity markets and purchasing policy.

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### HAYES AT ST. PAUL

F. Albert Hayes of Boston, President of the N.A.P.A., was the guest of honor and principal speaker at the February 11th meeting of the Twin City Association of Purchasing Agents, held at the St. Paul Athletic Club.

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### CONNECTICUT BUYERS MEET AT WALLINGFORD

The February meeting of the Connecticut Purchasing Agents Association was held at the Oakdale Tavern, Wallingford, on the 24th. Speaker of the evening was Frank E. Dully of the legal staff of the Travelers Insurance Company, who discussed "America's Future in the Present War."

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### NORTHWESTERN PENNSYLVANIA BUYERS DISCUSS PRIORITIES

An address on priorities by Mr. Mayer of the Raymond Mfg. Co., special discussion of Orders P-98 and P-46 by Messrs. Wodrich and McCullough, and a question and answer forum on other priority problems, featured the February 5th meeting of the Northwestern Pennsylvania Association of Purchasing Agents at the Carver House, Warren, Pa. Three new members were accepted at this meeting.

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### RHODE ISLAND MEETING

Prof. James H. Schoemaker, formerly of Brown University and now associated with the Board of Economic Warfare, Eastern Division, in Washington, addressed the Rhode Island Purchasing Agents Association, February 24th, at the Narragansett Hotel, Providence. His topic was "The War and the Economic Future." Commodity reports included "Brass and Copper" by W. E. Rayment, "Building Materials" by C. T. Allen, and "Twine and Cordage" by A. W. Logan.

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### MEETING AT SYRACUSE

The Purchasing Agents Association of Syracuse and Central New York met at the Onondaga Hotel, Syracuse, on February 24th. Dr. Eric H. Faigle of Syracuse University spoke on "The Industrial Geography of the United States and Canada." The technicolor sound film "Unfinished Rainbows" was shown through courtesy of the Aluminum Company of America.

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### LOS ANGELES BUYERS HEAR ABOUT RATIONING

The Los Angeles Association of Purchasing Agents held its monthly dinner meeting at the Elks Club on February 12th. The topic was "Tire Rationing,



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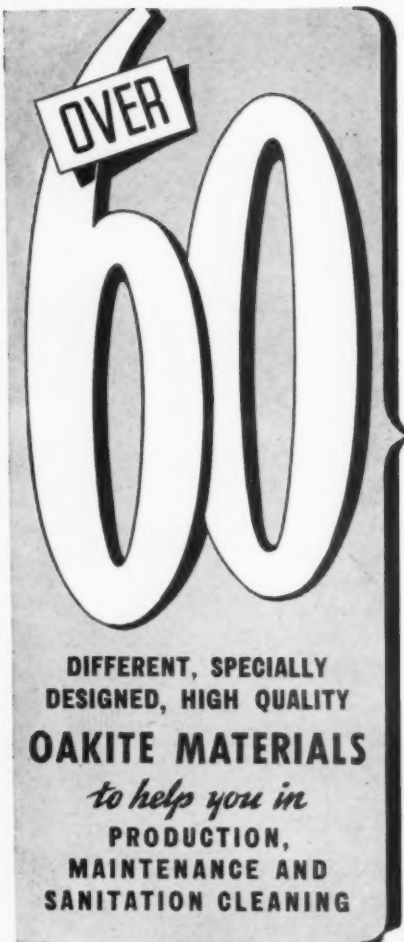
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### Free Engineering Service, Personal Help in Solving NEW Cleaning Problems!

If your plant is faced with **NEW** or **UNUSUAL** cleaning problems in connection with war production, plant sanitation or equipment maintenance, here is a timely, helpful suggestion!

Have your nearby Oakite Representative call. Whether or not you are now using Oakite materials, let him give you the benefit of his successful experience and specialized cleaning knowledge. You can also count on the assistance of our Mechanical Engineering and Chemical Research Laboratories. Yes . . . we stand ready, day or night, to **HELP YOU** on any cleaning operation you want performed easier, faster, at less cost! Your inquiry invited . . . no obligation.

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**OAKITE**  
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MATERIALS...METHODS...SERVICE



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**DIAMOND WHEELS  
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Automobile Rationing, and the Food Rationing Problem," discussed by Frank E. Marsh, Executive Officer of the Regional Office of Price Administration, San Francisco. A question period followed Mr. Marsh's address.

### WEISMAN AT PITTSBURGH

Russel Weisman, Professor of Political Science at Western Reserve University, Cleveland, addressed the Pittsburgh Purchasing Agents Association at a dinner meeting, February 17th, on the topic, "The Effects of War on American Economy." This meeting was the Association's annual "Assistant's Night," with buyers and others from the members' purchasing staffs present as guests.

### BIRMINGHAM ASSOCIATION

Joseph Brady of the Tire Rationing Board explained the new regulations and answered questions about their application, at the February 4th meeting of the Birmingham Association of Purchasing Agents.

The speaker on February 12th was William Bromberg of Bromberg & Co., whose subject was: "Time—the History of Watches."

### EXECUTIVE NIGHT BANQUET AT CLEVELAND

The annual Executive Night Banquet of the Cleveland Association of Purchasing Agents was held at the Cleveland Hotel, February 19th. W. E. Bittner of Pittsburgh, Vice President of N.A.P.A. for District No. 6, represented the national organization and spoke from the purchasing viewpoint, while the guest speaker was Strickland Gililan, well known humorist and philosopher.

### SAN FRANCISCO PROGRAMS

The February meeting schedule of the Northern California Purchasing Agents Association included: A luncheon meeting on the 5th, at which Raymond Reeves, business consultant of the San Francisco Regional Office of the U.S. Department of Commerce, discussed "Purchasing Agents in a War Economy" The annual joint luncheon meeting with the Golden Gate Paint, Oil & Varnish Club, at which Jack Stanton, head of the Hotel and Restaurant Division of the Wine Institute, spoke on the wine industry of California; A priorities forum on the 19th, led by H. Leland Weber of Fibreboard Products, Inc., chairman of the Association's Priority Committee; and a luncheon meeting on the 26th, at which Norman Livermore showed colored motion pictures of travel and adventure in the Himalayas, Idaho, and the high Sierras.

The monthly dinner meeting was held at the St. Francis Hotel on the 19th. Speaker of the evening was Paul E. Holden, Professor of Industrial Management at the Stanford University Graduate School of Business, recently





**FRONT LINE** Only "seasoned troops" will do in production's front line. At the workheads, where the production rate is determined, rely on tools that have proved their ability to stand up "under fire"!

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| INDIANAPOLIS, Ind. | Architects & Builders Bldg. | ROCKFORD, ILL.      | 1102 Broadway             |
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Write to your nearest Jessop warehouse, branch office, or agent—or to the mill in Washington, Pa.—for prompt, courteous attention to your inquiries for tool steel, alloy steel, or composite steels. Deliveries are made as quickly as possible in the present emergency.

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### MAGNUS CHEMICAL COMPANY

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## MAGNUS CLEANERS

returned from nine months of service as advisor to the Priorities Division of the Office of Production Management in Washington.

The East Bay Group held three luncheon meetings in Oakland during the month. The programs included: a colored sound movie, "Blowpipes," depicting the manufacture of glassware, presented by Frank Yeo, manager of the Dohrmann Hotel Supply Company through the courtesy of the Libbey Glass Company; a talk on "Industrial Safety and Its Importance During the Present Emergency," by George Meilink, general manager of the First Aid Service Co., and a talk on "Consumer Credit" by R. A. Peterson, Vice President of the Bank of America.

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### CONFERENCE OF CALIFORNIA PUBLIC BUYERS

The Eighteenth annual conference of the California State, County and Municipal Purchasing Agents' Association was held at San Diego, February 19, 20, and 21. Highlights of the convention program included:

Forum: "Problems of the Governmental Buyer," led by Al J. Holm, City Purchasing Agent, Los Angeles.

Address: "What's Ahead for Taxpayers," by N. Bradford Trenhan, Executive Secretary, California Taxpayers' Association.

Address and Forum: "Priorities and Allocations," by Col. Wayne R. Allen, Chief Administrator and Purchasing Agent, County of Los Angeles, now on service with the Division of Civilian Supply, War Production Board.

Address: "The Magnitude of Problems Facing San Diego Due to Defense Activities," by Walter Cooper, City Manager, San Diego.

Address and Discussion: "Standard Specifications and Substitutes," by J. M. McCool, Assistant Purchasing Agent, County of Los Angeles.

Address and Discussion: "The Enemy Act Endorsement for Invoices," by Grant Goodale, Assistant Purchasing Agent, State of California, Los Angeles.

Reports: "The 1941 National Convention," by Ed Chambers, Executive Secretary, Purchasing Agents Association of Northern California, and Arthur Baker, Executive Secretary, Los Angeles Purchasing Agents Association.

Address: "The Importance of Membership in the National Association of Purchasing Agents," by Robert L. Grube, Purchasing Agent of the Stephens-Adamson Mfg. Co., Los Angeles, and Vice President of N.A.P.A. for District No. 1.

Report of the Legislative Committee, by J. F. Misphey, Purchasing Agent, State of California, Sacramento.

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### LYONS ADDRESSES M.P.A.C.

Donald H. Lyons of the general purchasing department of the Johns-Manville Corporation addressed a dinner meeting of the Metropolitan Purchasers' Assistants Club at the Midston House,

# This *protective* step leads to 49\* more!



Carbon analysis in P-K Laboratory - first step in Quality-Control routine.

Parker-Kalon's Quality-Control Laboratory makes sure that every P-K Socket Screw has the right beginning. Thorough laboratory tests of the raw material are followed by numerous tests and inspections that result in Parker-Kalon's high standard of quality. Physical and mechanical characteristics must surpass all working requirements.

The Parker-Kalon Laboratory controls the entire production of these Socket Screws. This is your assurance of 100% dependability! "Doubtful screws" - screws that look all right but some of which fail to work right - have been eliminated by a complete step-by-step Quality-Control routine which has no counterpart in the screw-making industry.

This protection against costly delays and rejects caused by "doubtful screws" is ample reason why essential war production industries specify P-K Socket Screws. Besides, they cost no more! Parker-Kalon Corp., 202-204 Varick Street, New York.

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Complete test and inspection routine covers: Chemical Analysis; Tensile and Torsional Strength; Ductility; Shock Resistance under Tension and Shear; Hardness; Head diameter, height and concentricity; Socket shape, size, depth and concentricity; Class 3 Fit Threads; Clean-starting Threads.



REPORT ON INCOMING MATERIAL

Size: 304" No. 8179 Supplier: A.S.M.  
 Date Rec'd: 2/14/42 P.O. No. 6421  
 No. Coils: 15 No. Samples: 15 Analysis: S.A.E. 3/35L  
 Note: R. Backwell  
 Tested by: T.O. Date: 2/14/42  
 Approved by: T.O.

| Coil No. & Size | Carbon Analysis | Min. Tensile Load to No. | Min. Tensile No. in p.c. | No. Bad in Ave. | R.R. Rec'd | R.C. Hard | R.C. Temp | Structure | Spec. |
|-----------------|-----------------|--------------------------|--------------------------|-----------------|------------|-----------|-----------|-----------|-------|
| 53" - .366"     | 5020            | 69,250                   | 71.3%                    | 77.5            | 50         | 40.5      |           |           |       |
| 22" - .366"     | 4900            | 67,609                   | 71.3%                    | 75.5            | 50         | 40.5      |           |           |       |
| 17" - .369"     | 4980            | 68,740                   | 74.4%                    | 77              | 51         | 41.5      |           |           |       |
| 9" - .369"      | 4970            | 68,750                   | 69.9%                    | 77              | 52.5       | 40        |           |           |       |
| 23" - .370"     | 5090            | 68,600                   | 72.1%                    | 78              | 50         | 40.5      |           |           |       |

Remarks: Drawn at 775° F for 60 minutes - Wire OK for all operations -

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# WITT Cans

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Witt Cans and Pails are hot-dip galvanized after fabrication, a hand process that insures long life and dependability.

Day and night, Witt Cans and Pails are on the job. As safe and dependable containers for waste material and other refuse; for small parts and products conveniently placed throughout the plant, they help prevent lost motion, speed production, keep plant orderly and clean.

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Witt Cans and Pails are made for those who want the best and a Witt Can never disappoints.

Write for catalog or see your Jobber.

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WINCHELL ST. CINCINNATI, OHIO

## MARVEL High-Speed-Edge Hack Saw Blades

All 3 essentials in this one blade.

**MARVEL High-Speed-Edge Hack Saw Blades** will stand up to the highest speed and maximum feed of any hack sawing machine—will permit the speeding-up of all saws.

Because they are positively unbreakable they require less operator attention and will last until their cutting-edge is actually worn down. They have hardened eyes (can be tensioned tauter) and sharper teeth, for their greater life justifies special grinding. They exceed all solid hack saw blades in everything but price — they cost no more than ordinary solid high speed hack saw blades.

Sold by Industrial Distributors Everywhere.

**ARMSTRONG-BLUM MFG. CO.**

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New York City, February 10th. His subject was "Current Purchasing and Priority Organization Procedure."

The March 10th meeting has been designated as "P.A.A.N.Y. Night", and officers and members of the New York Association have been invited to attend. The speaker will be Dr. Heinz Luedicke, Commodity Editor of the *New York Journal of Commerce*.

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### EXECUTIVE NIGHT MEETING AT AKRON

The Akron Purchasing Agents Association held its annual Executive Night meeting at the Akron City Club, February 18th. Speaker of the evening was F. Albert Hayes of Boston, President of N.A.P.A.

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### SALESMEN'S NIGHT AT BUFFALO

The February 11th meeting of the Buffalo Purchasing Agents Association was designated as Salesmen-Buyers' Night. John L. Davis, humorist and philosopher, was the guest speaker.

On February 4th, the educational committee sponsored another program in the lecture series. The speaker was Dr. Martin A. Brumbaugh of the University of Buffalo, economic advisor to the association. His topic was, "Industry's Readjustment to Defense."

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### WESTERN MASSACHUSETTS BUYERS MEET AT SPRINGFIELD

Cy Caldwell, military analyst and aviation expert, addressed the February 12th meeting of the Western Massachusetts Purchasing Agents Association at the Kimball Hotel, Springfield. He discussed the present World War situation in terms of "Air Power vs. Sea Power."

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### PRICE REGULATIONS DISCUSSED AT DALLAS MEETING

William H. Brooks, assistant to the Regional Director, and Edward Crane, Regional Attorney for OPA, addressed a meeting of the Dallas Purchasing Agents Association last month, outlining the organization of the Dallas office of OPA and its functions in price control. A motion picture showing the construction of the Shasta Dam in California was also presented.

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### FUTURES TRADING UNDER WARTIME CONDITIONS

The 18 agricultural futures markets operating under the Commodity Exchange Act are used by thousands of merchandising and processing firms for hedging and price-basing purposes. So far most of these markets have withstood the shock of war and remained in operation, with relatively moderate price ranges. This is in sharp contrast

# *This Distributor is organized to give "Sudden Service"— and So is Yours!*



Just suppose that:—

1. Some time around 1 a.m., *your* night crew had ruined steel cutters that you couldn't replace—then failed to report the damage; and suppose:



2. Your *day* shift waited till 9:45 before discovering and reporting the loss to your Plant Superintendent—



3. Would you leave it to your own people to find replacements or—



4. Would you call in your *Assistants-at-Large*—the alert, capable, resourceful men of your Mill Supply Distributors' staff—and ask for a big helping of their "sudden service"?

Well—that's the *start* of a "short short" true story—the clocks tell the rest!

First the Distributor blanketed his area with long-distance calls. In a few minutes he located cutters at another manufacturer's, 41 miles away, who was willing to "loan" them. The Distributor found one of his own salesmen in that same City and directed him to pick up the cutters and start a "Paul Revere" back toward home.

Then the Distributor, still ticking, started one of his own men out to meet the salesman. Just half way they made a quick swap and the cutters were delivered to the waiting plant at

11:15—*exactly 82 miles and 75 minutes from the time they were first located by the Distributor!*

We, too, are doing our best through fast-thinking Distributors like this one, to keep you supplied with enough Cle-Forge High-Speed Drills and Peerless High-Speed Reamers so you can maintain full production throughout the emergency.

Resourceful Jobbers nationwide have always done their big part to keep you supplied with vital materials out of their own stock when you needed them most. These men are working in *your* best interest today, and in *ours*, as sole Distributors of "Cleveland" Tools.

This incident is typical of the unusual services that many Mill Supply Distributors are rendering their customers during the Emergency.

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*Any Mesh—Any Shape for Any Service*  
 Made by an organization that draws wire; weaves wire in all meshes and materials; and fabricates everything from heavy dipping baskets to tiny fine mesh strainers.

WRITE FOR COMPLETE INFORMATION  
 "Wire Products Since 1880"

**The C. O. JELLIFF MFG. CORP.**  
 22 Pequot Ave. Southport, Conn.

to the excessive speculation and erratic price movements which occurred in some commodities in the spring of 1917 followed by the closing of most of the futures markets.

In his recent annual report to the Secretary of Agriculture, Mr. J. M. Mehl, Chief of the Commodity Exchange Administration, describes the work that has been done to adjust the futures markets to wartime conditions. More than a year ago the C.E.A. began taking precautionary measures to prevent excessive speculation and artificial price forces. It obtained increased margins on speculative trades in scarce commodities, reduced price fluctuation limits on grains and cotton, and instituted other special wartime controls.

During 1940 and 1941 dealers, processors, and distributors continued to make substantial use of the hedging and risk-bearing services of the future's markets. To help adjust the markets to wartime economy, the Commodity Exchange Administration has sought the active cooperation of the exchanges, of processing and trade interests, and of the farm organizations. There should be no relaxation of vigilance by these groups if excessive speculation and disorderly marketing conditions are to be avoided, the report points out.

A copy of the report may be obtained upon request to R. Corbin Dorsey, Information Officer, Commodity Exchange Administration, U. S. Department of Agriculture, Washington, D. C.

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#### PUBLIC BUYING ADJUSTED TO EMERGENCY

Reflecting the changed conditions of buying under emergency wartime conditions and regulations, the rigid purchasing requirements of the Nassau County (N. Y.) charter have been revised on the recommendation and approval of County Executive J. Russell Sprague, Purchasing Agent E. Stanley Bosanko, and County Attorney Marcus G. Christ. The changes relax the provisions relating to the publication of notices and receipt of bids. Heretofore, the Purchasing Agent was required to wait ten days to receive bids on items more than \$1,500 in value after publication of notice. Under the terms of the new resolution, this waiting time is reduced to three days.

The procurement of some materials and supplies vital to defense, public health and police activities has not only been delayed by the earlier provision, but higher prices have been occasioned because of rapidly changing commodity markets. The action thus expedites the buying procedure and at the same time eliminates some unnecessary extra costs to the county.

Somewhat similar conditions are responsible for a notification to all State departments by Rhode Island State Purchasing Agent Franklin A. Adams, asking that all requirements be anticipated at least three months in advance to avoid difficulties which are now resulting from a hand-to-mouth policy. In



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**MACHINE TOOL  
 CASTINGS...**  
*see* **FOREST CITY**

★ We are in a position to supply machine tool castings such as gear boxes, drill press heads, carriage aprons, gear box covers and housings in grey iron, semi-steel or high test semi-steel.

Two modern foundries and specialization in high quality castings for more than 51 years are your guarantee of accurate and efficient production. Send us your inquiries.

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## You Lick Delays with this Speedy **RIGID** Pipe Cutter



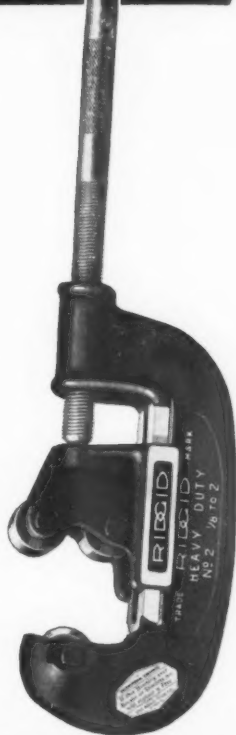
★ That's the **RIGID** Vise with LongGrip Jaw, handy built-in pipe support and pipe bender.

There's no time these days for slow tools — in construction, production or maintenance, no speed is good enough... Well, you cut *more* pipe with *less* effort with this **RIGID**. Special thin cutting wheels, forged and assembled in solid hubs, roll easily and cleanly through any pipe, save reaming time. Heavy-duty malleable frames that stand over-work, always cut true. Made 3-wheel and 4-wheel (No. 42) for still speedier cutting. Four sizes, for pipe to 4". Don't tolerate even small delays—buy time-and-work-saver **RIGID**s at your Supply House.



**RIGID** Thin Forged Cutter Wheel

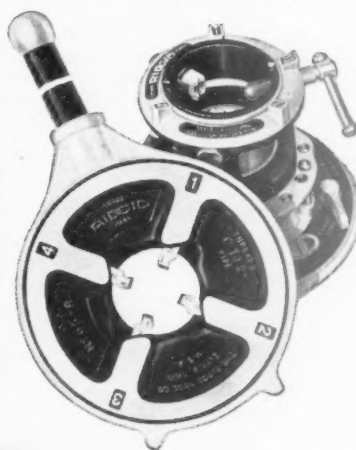
All **RIGID** Pipe Tools are sold only through Supply Houses



\*\*\* *Faster* pipe threading with *Less work* \*\*\*

**RIGID** No. 65R has a fool-proof workholder you set to size instantly

Just turn the pipe size on the cam plate to the arrow, put the threader on the pipe, tighten one screw—and start threading. No bushings. It's an instant, mistake-proof workholder. Setting chasers to thread 1", 1 1/4", 1 1/2" or 2" pipe takes only 10 seconds — no extra chasers to waste time; one high speed steel set cuts clean perfect threads on all 4 sizes, drip threads, short nipples, over and under size pipe—so easily you can turn it with your little finger. A rugged all-steel and malleable alloy die stock, with drop-forged hardened steel cam plates. It pays you *now* especially to try this time-and-work-saver **RIGID** No. 65R at your Supply House... today!



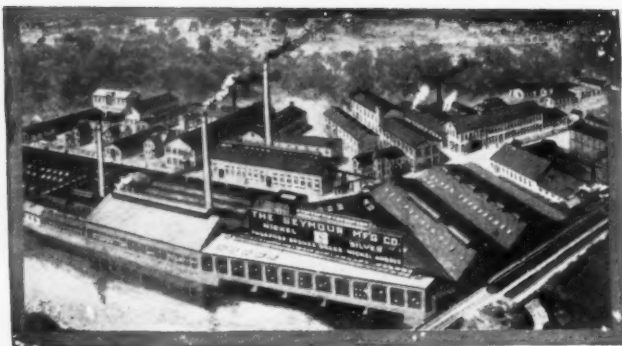
# **RIGID**

Pipe Wrenches, Cutters, Threaders, Vises

THE RIDGE TOOL COMPANY  
ELYRIA, OHIO, U.S.A.

## Work-Saver Tools for America's Big Job in 1942

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## Non-ferrous Alloys since 1878

**T**HE little "Seymour" plant of some 60 years ago, with its 30,000 or so square feet, was pre-tentious for its time. But, judged by today's standards of modern, high speed equipment, it was small, indeed! A main building with three pairs of rolls, two muf-fles and three wire blocks, and a casting shop with 25 pit fires, served New England perhaps a thousand pounds a day of copper, brass and nickel silver sheet, wire

and rod. In addition, a flourishing rod mill supplied a few quantity customers with rolled copper rods.

The contrast between this modest outlay and the present plant with close to 400,000 square feet, is not only an interesting index to the progress of a single industry, but also a vivid reminder of how far our country as a whole has come in less than a single generation!

# SEYMOUR

The Seymour Manufacturing Co.  
Seymour, Conn.

NICKEL SILVER • PHOSPHOR BRONZE • NICKEL ANODES



## Welded Stainless Tubing

4" to 14 3/4" O.D.

Uniformity in roundness and in quality of welding characterizes Pittsburgh Piping Welded Stainless Tubing. Available in most stainless alloys, in sizes 4" O.D. to 14 3/4" O.D., and in wall thicknesses ranging from 7/64" to 1/2". Write for data sheet.

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BUY

# Spartan

HACK SAWS  
AND  
BAND SAWS

TO CUT YOUR METAL

STOCKED BY DISTRIBUTORS EVERYWHERE



SPARTAN SAW WORKS, SPRINGFIELD, MASS.

order to further expedite the service of other departments, Richard J. Feely of Providence has been appointed liaison man between the purchasing department and other State offices, and several members of the staff have been assigned to follow-up and spot testing of deliveries.

### PURCHASING COURSE OFFERED AT NORTHEASTERN UNIVERSITY

The Evening School of Business, Northeastern University, Boston, Mass., announces a course in industrial purchasing. The instructor is Wyman S. Randall, Purchasing Agent of Rust Craft Publishers, Boston, a past president of the New England Association.

### BUILD UP COAL STOCKS

Large users of coal and coke, especially utilities and industrial users, are being urged by the Division of Industry Operations, WPB, to build up their inventories as much as possible to avoid the danger of having to suspend operations in case of an emergency.

General Inventory Order M-97, issued February 13th, revokes the inventory restrictions imposed by Priorities Regulation No. 1 insofar as they apply to coal and coke. This order was issued upon recommendation of the Office of Solid Fuel Coordinator.

The order will enable large users to take advantage of the fact that there is at present considerable excess production of coal and coke, and transportation available for distribution of these materials.

Inventory restrictions are relaxed for coal and coke only. Inventories of all other materials must be kept to a practical working minimum in accordance with the terms of Priorities Regulation No. 1.

### CAREFUL DRIVING CONSERVES RUBBER

If you want your tires to give you extra miles of service, take it easy on the curves. This is the warning to American motorists issued by P. W. Litchfield, Chairman of the Board of Goodyear Tire & Rubber Company, whose experience in the rubber industry covers a span of more than forty years.

On one of the main highways between Akron and Cleveland, a distance of thirty-five miles, there are eighty curves. Sweepings from these curves have been collected, analyzed and compared with sweepings taken from straight stretches on the same highway. This test revealed that tire wear on curves is 1200% greater than on the straightaway.

The most important factors in tire life, Mr. Litchfield pointed out, are speed, overloading, underinflation, wheel alignment, brake equalization, "jack rabbit" starts and abrupt braking. When automobile speeds are reduced, the rate of tire wear declines sharply. Goodyear research men have estimated that the average tire on a new car will give about 30,000 miles of service if it is



## **Aerial Bombs Made from Steel Saved by Preformed Wire Rope**

★ By lasting longer, preformed wire rope conserves steel which America greatly needs. For example, it conserved enough steel last year through longer service to make more than 73,000 aerial bombs for our armed forces.

★ Back of the armed forces—in the industries that provide their requirements—preformed wire rope plays an important part by reducing the frequency of machine shutdowns. This wire rope lasts longer, it steadies production, and is easier and safer to handle. It saves both time and money.

★ Preformed wire rope is an essential to American industry—a necessity for the Nation.



## **PREFORMED WIRE ROPE**

**Ask Your Own Wire Rope  
Manufacturer or Supplier**



### A BOLTMAKER BOLTS

*Pittsburgh:*

■ The hammering clank of heading machines, the whir of threaders, screw machines, shavers and grinders in the metal fastener industry have taken on an even higher pitch as productive capacity strives to meet the President's quota of armament.

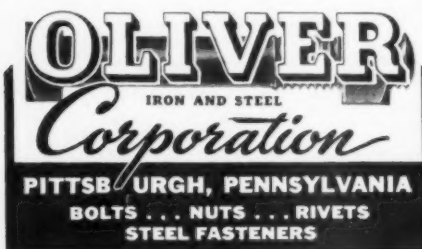
No . . . bolts, nuts and rivets are not armament, but . . . not a tank rolls, not a battleship floats, nor aircraft flies that doesn't contain these metal fasteners in hundreds of vital points. Many of these are



*. . . part in 36 hours.*

Oliver Iron and Steel Corporation products and because you need them, Oliver "bolts" into top speed production . . . enlarges every needed facility . . . adds manpower . . . gets set to serve the Victory Program and your requirements to the best interest of the nation.

A recent lend-lease order . . . scheduled for delivery in 5 months, became crucial material due to the turn in the war. A cable from the foreign Purchasing Commission brought partial shipment in 36 hours . . . final shipment in 30 days. Oliver Iron and Steel is fulfilling and will meet the united nations' demands and is doing everything in its power to speed America's War and Victory Program.



driven at an average speed of 35 miles per hour whereas if that average speed is 50 miles per hour the tire will wear out at 20,100 miles.

"There are one hundred and ten million tires and tubes on the streets and highways of America today," Mr. Litchfield points out. "If each driver would reduce his average speed by 10 miles per hour he would get about 6,300 extra miles out of his tires and this would add up to a total of almost seven billion extra tire miles for the nation as a whole. Since it may be a long time before we can replace the tires now on the road, motorists would do well to discipline their driving habits."

♦ ♦ ♦

### CITY PURCHASING REPORT FOR MILWAUKEE, 1941

During the year 1941 approximately \$3,450,000 worth of materials, supplies, equipment and minor services were purchased or contracted for by the Central Board of Purchases and Department. This amount is approximately \$250,000 less than last year's purchases. This reduction is due to the decline in WPA requirements. Cash discounts for prompt payment of bills amounted to approximately \$21,500. This is \$500. less than last year which is in proportion to the decrease in volume of business.

At the suggestion of the City Comptroller and the City Purchasing Agent, a plan of centralized control for all city-owned warehouses and storerooms was approved by the Central Board of



### DAYTON GRINDING WHEELS

A complete line of abrasive wheels.  
Inquiries given prompt attention.

SIMONDS WORDEN WHITE CO.,  
DAYTON, OHIO

### GRIPS FOR THE NAVY

*Somewhere in the Pacific*

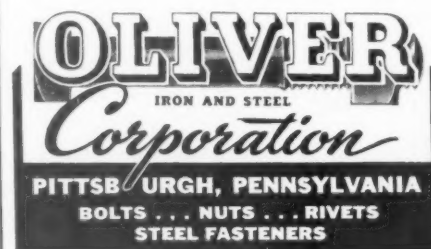
■ With a "wham" that makes thunder sound like a toy bass drum, the U. S. Navy lets go a salvo of 16-inch rifles. Concussion sweeps the decks like a hurricane and screaming projectiles soar miles to the objective. With each recoil the giant ship rolls, hesitates and quickly rights itself . . . every plate, angle and stringer shocked but sound.

Oddly enough the strength of this mighty sea warrior and much of its capacity to give and take battle punishment is directly dependent



on the common bolt and rivet. We seldom think of these metal fasteners as playing an important part in Victory, yet millions of pounds of rivets, bolts, nuts, washers, cold headed or forged lugs, clips and fasteners in hundreds of shapes and sizes go into the building of warships. They are the vital links that join structures so quickly, grip so dependably and install so economically.

Like the man behind the man behind the gun . . . Oliver Bolts, Nuts, Rivets and Fasteners receive little of the praise . . . yet do a vital job exceptionally well. Take a tip from the toughest performance requirements in the world, look to Oliver Products for a sound answer to metal fastener problems and prompt attention to every essential requirement.



*When writing advertisers please mention Purchasing*

# 4 Check List of APEX POWER BITS and Hand Drivers • POWER BITS

## Kinds:

- (a) For Phillips screws
- (b) For Slotted Head Screws
- (c) For Clutch Head Screws

## Types:

- (a) For regular screw stock
- (b) For case-hardened, self-tapping screws

## Styles:

To fit all sizes of screw heads

## HAND DRIVERS

## Kinds:

- (a) For Phillips screws
- (b) For Clutch Head screws

## Types:

- (a) For regular screw stock
- (b) For case-hardened, self-tapping screws

## Styles:

Wood Handles  
Superloid shock-proof handles  
"L" and "LL" Drivers  
Service Drivers  
Hand Brace Bits

## Sizes:

To fit all sizes of screw heads

Send for Illustrated Catalogs

**THE APEX MACHINE  
& TOOL COMPANY**

1021 S. Patterson Blvd. Dayton, Ohio

Purchases. Honorable Carl F. Zeidler, Mayor and Chairman of the Central Board of Purchases, appointed a special committee to study this matter with a view of obtaining the necessary legal authority to centralize this control. Hon. John L. Bohn, President of the Common Council and a member of the Central Board of Purchases, is the chairman of the committee. If this plan is approved by the Common Council, it will follow the lead of the City of New York and the County of Los Angeles, where store-keeping was centralized in the Department of Purchases and the number of storehouses was reduced to a minimum.

As a move to assist the National Defense Program, a committee consisting of Walter M. Swietlik, Commissioner of Public Works, Mr. James Barr, Secy. of the Board of Estimates, and the City Purchasing Agent, has been assigned to study the use of substitute materials in municipal work. Particular study is being made of the simplification of office forms and the possibilities for a reduction in the amount of paper used. During the past year the purchasing department has found it increasingly more difficult to obtain many materials widely used by the City owing to the fact that they are on Federal priority lists.

The purchasing department has altered many office forms during the past year, effecting considerable savings. Sizes were changed, eliminating waste by cutting from standard sizes. After

*Don't fire  
that man!*

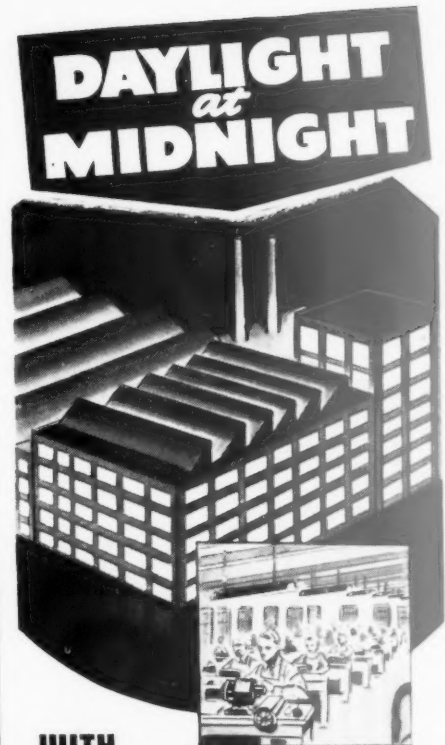
Instead, give him a marking material that won't get him "in wrong" — that "stays put" even though exposed to the elements. Give him

**PAINTCIL**

Actual paint in the form of sticks. Easy to use and carry as a pencil. No chance for confusion — no necessity to explain illegible markings or "lost materials."

Write or wire for samples — and insist on this genuine paint in stick form. Specify "Paintcil."

**HELMER-STALEY, INC.**  
327 WEST HURON STREET  
CHICAGO, ILLINOIS



**WITH  
FLUORESCENT  
LIGHTING**

and twelve o'clock noon lighting at twelve o'clock midnight is economical lighting when you use G-E Fluorescent Starters. Economical because . . .

They help your lamps to last longer!

How? G-E Starters are designed by Mazda Lamp engineers to have the correct starting characteristics to start your lamp at the exact proper time — not before, not after. There is no needless waste of emission material (vital to long lamp life) when you use G-E Starters.

## G-E "NO-BLINK" STARTERS

Even the annoying blinking and flickering at end of normal lamp life is eliminated and starter life is prolonged by using the "No-Blink" starter, developed and introduced by General Electric.

For economical, trouble-free lamp operation, specify G-E Starters for your fluorescent lighting equipment.



*The Key  
TO  
ECONOMICAL  
FLUORESCENT  
LIGHTING*

A new fact-packed folder giving helpful information on fluorescent lighting and the need for proper accessories is now available. Get yours by writing to Section G-2773, Appliance and Merchandise Department, General Electric Company, Bridgeport, Connecticut.

**GENERAL ELECTRIC**

## WHY SHIPMENTS IN GENERAL ALL-BOUNDS match stepped-up PRODUCTION

### 1 AVAILABILITY

13 strategically located plants and offices blanketing industrial America! There is one near you — specially trained General Box men are ready and willing to help you solve your packing and shipping problems.



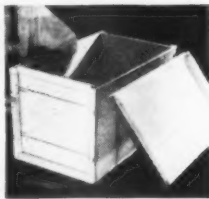
### 2 SAVE FLOOR SPACE



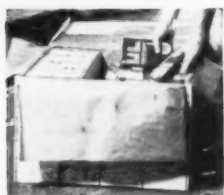
Here is maximum use of storage room space. General All-Bounds are "one-piece shoos." They store flat and take a fraction of the space necessary for made-up containers.

### 3 EASY, FAST ASSEMBLY

Even an inexperienced man can assemble a General All-Bound Box easily and quickly. It comes two-thirds assembled. No nails are used. Sides and ends are easily and securely joined. Sealed by Rock Fasteners, the General All-Bound has the strength of steel on all six faces.



### 4 EASY TO PACK and HANDLE



All types of products are packed rapidly, handled quickly and easily in General All-Bound Boxes. Lightweight, remarkably strong, All-Bound Boxes save as much as 50% tare weight

—provide adequate protection.

Mail coupon for the descriptive booklet.

## GENERAL BOX COMPANY

General Offices: 48 W. Illinois St., Chicago, Ill.  
District Offices and Plants: Brooklyn, Cincinnati,  
Detroit, Kansas City, Louisville, Milwaukee, New  
Orleans, Sheboygan, East St. Louis, Winchendon,  
Continental Box Co., Inc.: Dallas, Houston

- ☐ Send a free copy of the booklet illustrating engineered shipping containers.  
☐ Have a General Box engineer call.

Name.....

Address.....

City..... State.....

consulting with department heads, paper of more adaptable weights and qualities were substituted when requisitions for standard forms were received.

Closer scrutiny has been given lumber deliveries to insure receipt of the grade ordered. In this connection also, many changes were made in the quality or species ordered. It was found that many requisitions called for lumber which was too good or not good enough for the purpose intended.

A central scrap yard was suggested but the idea may be shelved owing to the high cost of hauling materials to a central yard. Prices of scrap materials have increased considerably and the purchasing department has made every effort to ferret out, collect and sell all available scrap. One man was assigned to the task of inspecting all yards and storerooms for the purpose of determining what materials could be sold for scrap. Department heads were given his reports and were asked to give their approval to sell all items which they knew would be of no further use to them. After receiving this approval the purchasing department advertised for bids and made awards to the highest bidders. During the past eleven months the City realized a total of \$22,523.27 in cash for the scrap sold. This is approximately \$10,000 below the 1940 total which was greatly augmented by the sale of materials from the Kilbourn Avenue Widening Project.

In order to be assured of having fireworks on the Fourth of July bids were

**Evans'**  
No. 1303  
Case Sealing Glue  
Bonds 212,400 Sq. in.  
per gallon

Tested during actual working conditions, EVANS' No. 1303 case sealing glue, given a standard 50% dilution seals 212,400 square inches of rough corrugated board. This equals 738 cases sealed at the flaps both tops and bottoms size 6' by 12'. It goes more than three times as far as silicate of soda. Needs no expensive dispensing equipment. Only brush and bucket. Write department P for further details.

**Evans'**  
WEANS QUALITY ADHESIVES

THE COMMERCIAL PASTE CO.  
504-10 BUTTLES AVE. Since 1900 COLUMBUS, OHIO



### Compact, Easy to Install Electric PRODUCTIMETERS

COUNT with absolute accuracy small pieces... parts that must not be marred... articles too light in weight for mechanical contact. Ideal for remote control installations.

MODEL S-D1-MF above especially adapted for use with the "Electric Eye."

Write for Complete Details... Catalog No. 16

### DURANT MFG. CO.

159 N. Buffum St.  
Milwaukee, Wis.

159 Eddy St.  
Providence, R. I.

PRODUCTIMETERS  
THE SPEEDMETERS OF INDUSTRY



It will pay you to familiarize yourself with Taylor-Made Chains. With the Taylor literature before you—or Taylor-Made Chains themselves—you will recognize the T-M factors of safety, service and economy.

### TAYLOR-MADE CHAINS

are made of the toughest, strongest materials. With these, T-M Design and Rugged Construction assure you the utmost in smoothness and dependability.

Choose the particular chain you need from the Taylor Catalog that tells all about tests, sizes, weights, and grades. Write for Catalog now!

Est. 1873

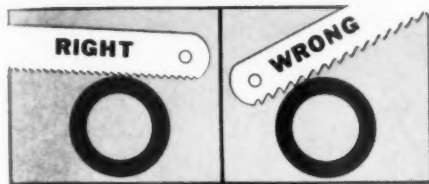
S. G. TAYLOR CHAIN CO.  
HAMMOND, INDIANA

When writing advertisers please mention Purchasing

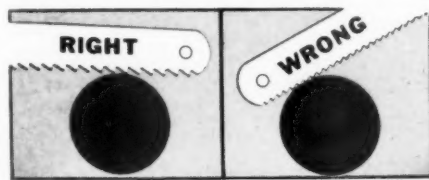


# 3 Tooth Rule GIVES MORE CUTS PER BLADE

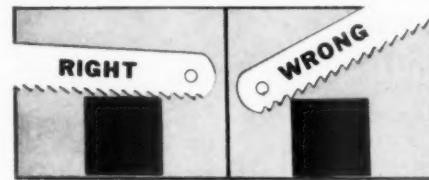
It's patriotic and profitable to get the most from the hack saw blades you buy. Follow this tip from "Metal Cutting"—free 20-page VICTOR Booklet—to avoid stripped teeth and ragged, crooked cuts.



1 On thin walled stock, use fine tooth blade—fine enough so that, throughout the cut, three adjacent teeth will always be in contact with the work. If that's impossible, use extremely light, steady stroke.



2 On thick stock, use coarse tooth blade with heavy pressure. Thus, with more pressure per tooth, you get a deeper cut with each stroke, and large space between teeth will clear chips better.



3 When starting cut, keep off sharp angles. Otherwise you violate "3-tooth rule" with any blade. But do start at a slight angle so initial cut will guide blade as soon as possible.

**FREE BOOK SPEEDS  
WORK! CUTS COSTS!**



To get the most from the blades you buy, give your men "Metal Cutting"—20-page, pocket-size booklet on selection, use and care of hand and power hack saw blades, frames, and metal cutting band saws. Liberally illustrated, concise, with many valuable tips. All the copies you need—FREE. Just pin coupon to your company letter-head, or ask your Mill Supply Distributor.

VICTOR SAW WORKS, INC.,  
MIDDLETOWN, N. Y.

Please send immediately.....copies of  
"Metal Cutting"—FREE. No obligation to  
me or my company.

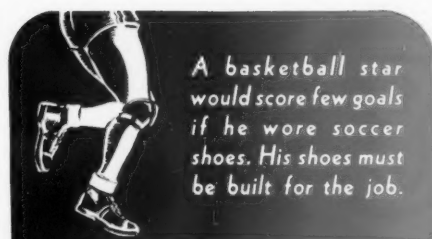
Name..... Title.....  
Company Name.....  
Address.....  
City..... State.....

advertised and the award made on October 29, 1941 for the 1942 July Fourth celebration. The same is true of United States flags for the Fourth of July celebration. This contract was awarded on November 26, 1941.

The by-laws of the Purchasing Board were amended during the past year in order to reduce emergency purchases as much as possible as it is realized that they are costly. Prices are generally lower when purchases are made in large quantities. Also when orders are placed far enough ahead, vendors can make deliveries in the regular course of their routine without making special trips.

The City Purchasing Agent served as a consultant for the Federal Office of Price Administration and also assisted in organizing the Federal Consumer Division of O.P.A. This division recommends to civilians the use of substitutes, the conservation of materials and methods of cutting household budgets.

The Coordinated Purchasing Board of Milwaukee County which was established a year ago has moved ahead with considerable impetus during this past year. This Board consists of representatives of eighteen municipalities and school districts in Milwaukee County, and the County government. The object of the Board is to decrease the operating cost of government services by pooling requirements and buying commodities jointly. In most communities where coordinated purchasing is



A basketball star  
would score few goals  
if he wore soccer  
shoes. His shoes must  
be built for the job.

## Casters, too, must be built for the job



**M**ATERIALS handling must speed up to keep pace with increased production. Rely on truck casters built for the job. Specify Bond for all your trucks . . . and get more in length of service . . . load capacity . . . ease of handling. Where a light weight caster is required, the Bond 140-A all-steel caster (illustrated) offers exceptional strength and long life at low cost. For information about the complete Bond line, write today for your free copy of the Bond Data Book.

For maximum efficiency in materials handling, investigate the Bond Lift Jack-Platform System. Write for bulletin.

BOND FOUNDRY & MACHINE CO., MANHEIM, PA.



## MAILING BAGS



Bulky packages cost more. Avoid unnecessary expense and trouble by using sturdy Chase Mailing Bags. For nuts, bolts, spare parts, samples, odd shaped articles. Eliminate "under separate cover"!

Write for prices!

**CHASE BAG CO.**

GENERAL SALES OFFICE  
309 WEST JACKSON BLVD., CHICAGO, ILL.

*Keep them  
Turning!*

**FULL SPEED,  
MAXIMUM OUTPUT with  
Tannate Leather Belting**



**for PRIMARY DRIVES . . . for  
MODERN GROUP DRIVES . . . for  
PIVOTED MOTOR BASE DRIVES**

With tremendously increased demands on production, every available machine must be kept on the job at maximum efficiency. On many machines, Tannate leather belting can help you do this! It has strong grip; delivers more power; is long lived with little maintenance; reduces time out for replacements or repairs; has high overload capacity; keeps machine speeds constant. Many of the very important machines in industry are Tannate driven . . . Naturally so . . . Tannate keeps production up, keeps costs down. TRY IT!

**J. E. RHOADS & SONS**

35 N. 6th St., Philadelphia, Pa.

New York Chicago Atlanta Cleveland  
FACTORY & TANNERY — WILMINGTON, DEL.

**STEP UP PRODUCTION**

**WITH**

**RHOADS** Established 1702

*Tannate*  
**WATERSHED  
LEATHER BELTING**

being carried on, it is an extra-legal function, allowed to exist by virtue of public approval. However, in the State of Wisconsin the following section of the Wisconsin Statute (Section 66.30) provides for the legality of this type of purchasing:

"Local cooperation. Any city, village, town, county or school district may, by action of the governing body thereof, enter into an agreement with any other such governmental unit for the joint or cooperative exercise of any power or duty required or authorized by statute, and as part of such agreement may provide a plan for prorating any expenditures involved."

♦ ♦ ♦

**VAN EATON IS APPOINTED  
PROPERTY CUSTODIAN**

Harold D. Van Eaton, Supervisor of Purchases for the State of Washington, has been named State Property Custodian in addition to his purchasing duties. The newly created office will supervise a plan of inventory control, maintaining records of all state property, especially office equipment, machinery and supplies. It is expected that this annual check-up will make possible the creation of a "pool" of surplus equipment from which all state departments may draw their requirements, eliminating the purchase of duplicate equipment and supplies. Mr. Van Eaton also holds the office of Assistant Director of Finance, Business and Budget in the state administrative organization.

**WANTED—ASSISTANT  
PURCHASING AGENT.**

This advertisement is directed to a man with initiative and proven ability, who is willing to assume important responsibilities and is probably now a first or second Assistant Purchasing Agent in the steel and metal fabricating industry, who is looking for a real opportunity for advancement with an old and established concern.

The man should be thoroughly familiar with the purchasing of large tonnages of Steel, Copper, Brass and other metals and in all forms on a mill basis. He should also be well versed in Priority regulations now in effect on Steel and other metals.

The present Purchasing Agent is to be promoted to another position as soon as he is satisfied he has found the man who can demonstrate that he is capable of taking over the duties incident to the Purchasing Department.

Give full details in first letter, including snapshot or small unretouched photograph, together with qualifications, experience and salary expected. All information furnished will be held strictly confidential.

Box 2930, PURCHASING,  
205 E. 42nd St., New York, N. Y.

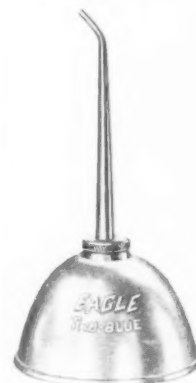
**EAGLE OILERS**

**ARE ON THE FRONT LINES  
OF PRODUCTION!**

In aircraft factories  
—and shipyards— in  
plants everywhere—  
now so vital to vic-  
tory you'll find Eagle  
Oilers— saving time  
— saving machinery  
on production lines—



Hydraulic Pump  
Oiler



True Blue Oiler

Operating men  
and purchasing  
agents want  
Eagle Oilers be-  
cause they last  
longer and give  
better, more eco-  
nomical service  
than ordinary  
oilers.

At leading distributors or write  
**EAGLE MANUFACTURING CO.**  
Dept. 732 Wellsburg, West Va.



*Check* IN AT A DeWITT  
OPERATED HOTEL

*In Cleveland*  
**THE HOLLENDEN**

*In Columbus*  
**THE NEIL HOUSE**

*In Akron*  
**THE MAYFLOWER**

*In Lancaster, O.*  
**THE LANCASTER**

*In Corning, N. Y.*  
**THE BARON STEUBEN**

THEO. DeWITT PRESIDENT





## YOU WON'T HAVE TO TURN BACK

Sometimes we all come to a crossroad, take what we think is right and then find we must turn back.

In selecting hack saws that are needed to satisfy, you are always on the right road with GRIFFIN.

The line is complete, a blade for every job, the quality proven by 62 years of experience.

Why not follow the GRIFFIN Road to hack saw results that satisfy. See your distributor today, insist on GRIFFIN.

**JOHN H. GRAHAM & CO. INC.**  
General Sales Agent

105 DUANE STREET — NEW YORK CITY  
Made by G. W. GRIFFIN CO., Franklin, N. H.



### MOBILIZE ENGINEERING TALENT

A plan for the "mobilization" of Tool Engineering has been approved by the Executive Committee of the American Society of Tool Engineers and presented to the OPM, according to Otto W. Winter, First Vice-President of the National technical organization.

The plan is designed to accomplish the following purposes:

1. To utilize to the maximum possible extent the experience and ability of the Tool Engineers of the United States in connection with war efforts.
2. To make available the experience and ability of Tool Engineers—without cost to the Federal Government in solving such problems as:
  - A. Tooling up for and speeding war production.
  - B. Spreading of sub-contracts and utilization of idle plant capacity.
  - C. Technical aspects of War Production training in the fields of Tool Engineering, Tool Design, and Machine Shop Practice.

The plan which will make available to federal agencies the services of the close to 10,000 Tool Engineers comprising the membership of the A.S.T.E. has been under consideration for some time and the necessary preliminary work to test its feasibility has already been completed.

Under the plan, the individual experience and abilities of the Society's entire

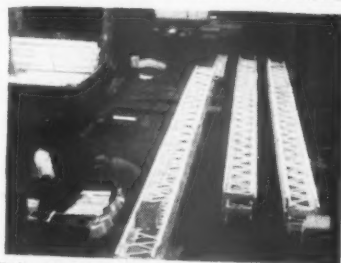
## GALVANIZING

**40 YEARS' EXPERIENCE  
IN QUALITY WORK!**

We ship via boat, truck, and railroad



ONE OF THE LARGEST, BEST EQUIPPED  
AND MOST MODERN PLANTS IN THE U.S.A.



Galvanized Products Furnished

**ENTERPRISE GALVANIZING CO.**

2519 E. CUMBERLAND ST., PHILA., PA.



**DoAll BAND SAWS**

### SING THROUGH ANY METAL

With a speed and sureness that is amazing, these wonder saws cut right through any kind of metal or alloy up to 10" thick (and even thicker). These band saws offer you today's fastest machining method of external and internal removal of metal.

Above view (Parten Mfg. Co., Minneapolis) shows Beaters for Pulverizing Machines made on the DoAll. Formerly, these were drop forged.



Various parts used in maintenance work at St. Paul Vocational School, now made on the DoAll at a 33 1/3% saving.

### 42 O P M SIZES



DoAll Band Saws come in hundred-foot coils, each in a metal box with opening for saw to be pulled out and cut off as needed. Each box is plainly marked with size and style of saw.

Pat. No. 2,255,577  
Design Pat. No. 127,313  
Other Patents Pending

**FREE**

If you haven't seen the booklet "Actual Performance Records of DoAll Saws", send for copy today. It's interesting.



**THE DOALL COMPANY**  
1214 Thacker St. Des Plaines, Ill.

Associated with Continental Machines, Inc.,  
Minneapolis, Minn.



## RAZOR-BACK

—the ONLY Shovel  
with a  
BACKBONE!



60% thicker at the cutting edge to resist wear,

60% thicker in the frog and socket for great strength,

tapered to the sides to make it light in weight!

This construction, in a one-piece, heat-treated forging with 11-inch long socket and deep-hung, tubular shank, makes other types obsolete — guarantees most service per dollar, lowest cost handling of material.

Send for Catalog and Price

**THE UNION FORK & HOE CO.**  
Columbus, Ohio

Makers of Quality Tools for Over 40 Years



## LAY ON THE PUNISHMENT

... this Floor Patch Can Really Take It!

Full speed war production demands smooth, wear-proof floors. Use tough, he-man RUGGEDWEAR Resurfacer for patching or resurfacing an entire area. No chopping or chipping required. Merely sweep out the spot to be patched—mix the material—trowel it on. Holds solid and tight right up to irregular edge of old concrete. Cellulose-Processed to provide a firmer, tougher, smoother, more rugged wearing surface. Used indoors or out. Dries fast. Low in cost.

Valuable 74-page "HAND BOOK OF BUILDING MAINTENANCE" available to those requesting on business letterhead.

MAKE THIS TEST!

FLEXROCK COMPANY  
2319 Manning St., Phila., Penna.  
Please send me complete  
RUGGEDWEAR information  
... details of FREE TRIAL  
OFFER—no obligation.

Name .....  
Company .....  
Address .....  
City ..... State .....



membership will be catalogued geographically and made available to local as well as centralized units of Federal production, educational, and contract agencies through the already assured voluntary and confidential cooperation of the individual Tool Engineers. By reference to the files to be furnished to each local OPM and A.S.T.E. office, names of Tool Engineers having specific experience with any particular problem on which assistance is needed will be immediately available.

1 1 1

### SUBCONTRACTING EXHIBITS

Subcontracting exhibits of the Contract Distribution Branch, WPB, have been opened in eighteen cities for the convenience of manufacturers seeking to place their production facilities into vital war work. These exhibits show actual samples of parts which are needed on prime contracts in the area and which are available for subcontracting. Qualified officers are in attendance to assist the manufacturer and to put him in touch with the prime contractor. The exhibits are kept up to date as contracts are let or as new requirements arise. The location of exhibits already open or scheduled to open by March 1st is as follows:

Atlanta, Ga.—Suite 150, Hurt Bldg.  
Boston, Mass.—Court Street Branch,  
First National Bank.

Buffalo, N. Y.—White Bldg.

Chicago, Ill.—Civic Opera Bldg., 20  
North Wacker Drive.

Cincinnati, Ohio—Union Central Life  
Bldg., 309 Vine St.

## ALLEN FLUX

Van Acid Soldering Flux  
Solder All Metals  
Fast working — Dependable  
Send For Free Soldering Chart  
L. B. ALLEN CO., INC.  
6712 Bryn Mawr  
Chicago, Illinois

## MULTIPLEX DISPLAY FIXTURE FOR SALE

A #63 Floor type revolving Multiplex Display Fixture with a ten wing capacity, complete with 10 wings 24" wide by 36" high, 1" beveled moulding frames, fillers of thumb-tack board covered with brown bur-lap.

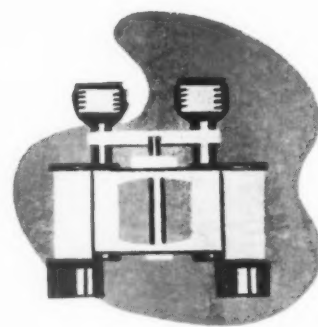
Entire fixture finished in crinkle antique bronze.

Complete with shipping case. Ideal for display of advertising material, for convention exhibits or in office maps, charts. In excellent condition.

Box No. 926

PURCHASING

205 E. 42 St. New York, N. Y.



Engage all possible means to increase your vision with the certain knowledge that men live also by the promise and hope of better things to come. Meanwhile, we at General Screw Manufacturing Company see most clearly that our facilities for production of bolts, nuts and screws are of vast help to the industry of America, in the battle for production . . . and the drive for victory. Action and vision mold each other, and that is why we can take our place on the honor roll of industry.

**GENERAL SCREW  
MFG. CO.**

Bolts, Nuts, Screws

1224-44 Monroe St., Chicago

## HOTEL PHILADELPHIAN

FORMERLY HOTEL PENNSYLVANIA

DANIEL CRAWFORD, JR., Mgr.  
39th and CHESTNUT STREETS  
PHILADELPHIA, PENNSYLVANIA

Our courteous and competent staff will give you the utmost in friendliness, comfort and service. Conveniently located to all stations, and only five minutes away from the heart of the business section.

600 ROOMS

Each with bath from \$3.00 up

RADIO IN EVERY ROOM

Lounge and Restaurants  
Unrestricted Parking to 3 a.m.

# NEW CATALOG FOR WAR INDUSTRIES

RIGHT NOW...

Harper can supply war industries and other priority holders with fastenings. This 1942, 4 color, 80-page Catalog gives details. Write for complimentary copy today. Harper maintains 4320 STOCK ITEMS... of non-ferrous and stainless bolts, nuts, screws, washers, rivets and related items... and operates special machinery to produce a host of "hard-to-make" fastenings. Today Harper Products are being used by thousands of war manufacturers. Mail your Catalog request now.

THE H. M. HARPER CO.  
2606 Fletcher St. Chicago, Ill.



**HARPER**  
Chicago



A battle was lost for want of a horseshoe nail. Are you losing sales and customers because you don't use **AMESACKS?**

## PARTS BAGS

Cotton Bags with drawstrings. Small parts go into bag, which is tied securely to product. No lost parts, annoyance or delay.



## PARCEL POST BAGS

Cotton Bags with drawstrings and address tags. Save up to 90% packing time and up to 50% postage. Handy, efficient, economical.

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Kansas City, Mo.—Mutual State Bldg.  
Los Angeles, Cal.—Western Pacific Bldg., 1031 S. Broadway.  
Memphis, Tenn.—18th Floor, Sterick Bldg.  
Newark, N. J.—4th Floor, Indemnity Bldg., 20 Washington Place.  
New Orleans, La.—Canal Bldg.  
New York, N. Y.—Chanin Bldg., 122 E. 42nd St.  
Philadelphia, Penna.—Broad Street Station Bldg., 1617 Pennsylvania Blvd.  
St. Louis, Mo.—Boatmen's Bank Bldg., Locust St. & Broadway.  
San Francisco, Cal.—Whitcomb Hotel.

Peter Voss, for many years Director of Purchases for the Timken Roller Bearing Company, Canton, Ohio, retired from that position February 1st.

Frank Courneen has been appointed Purchasing Agent of the Dinion Coil Co., Caledonia, N. Y. Mr. Courneen formerly did the purchasing for the Stromberg Carlson Co.

Chauncey H. Smith, formerly Assistant Purchasing Agent for the Carnation Milk Co., Seattle, has been named manager of the Seattle chapter of the Associated General Contractors of America.

Morton Salt Co. Chicago, Ill.

**HEAT TAG**  
WORKERS WHO SWEAT NEED SALT  
• USE MORTON'S SALT TABLETS •

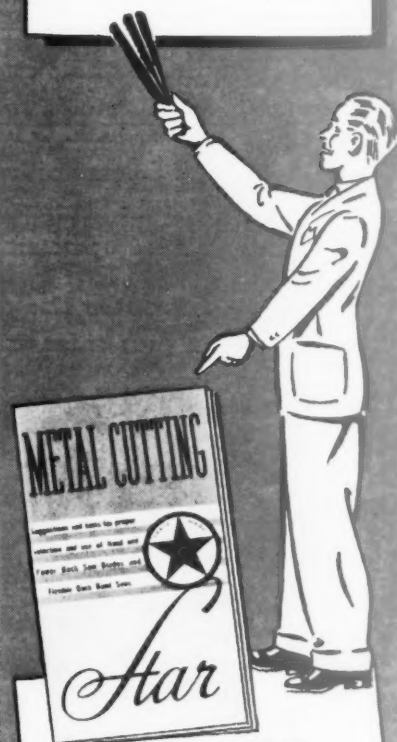
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**SAFETY FACTORS**  
in your  
**GRANULATED INDUSTRIAL SKIN CLEANSER**  
1. pH Below 10  
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2042 WALNUT DEPT C ST. LOUIS.

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Dollar for dollar and minute for minute — STAR Blades cut more metal - help get the work out faster, with minimum effort. They're worth taking care of, so be sure you pick the right STAR Blade for every job — and use it right on the job. That way you can help make sure you'll always be able to get the best — STAR. Order through your regular Mill Supply Distributor. If your work rates a rating be sure to let him know it.



## FREE BOOK HELPS WIPE OUT WASTE

Every man who uses blades can use "Metal Cutting", 20-page pocket-size booklet on selection, use and care of hand and power blades, frames and metal-cutting band saws. Complete, concise, liberally illustrated. Write today for as many copies as you need, or ask your Mill Supply Distributor. They're free!



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Middletown • New York

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American industry is moving rapidly into a total wartime production schedule. Every available plant must be converted NOW to the production of equipment, supplies or parts directly serving our military program.

Purchasing Agents for the companies engaged as prime contractors on governmental orders are combing the country for sub-contractors, large or small, with suitable capacity to help them get out the work.

PURCHASING Magazine can bring these two vital factors together—the need for defense orders and the need for manufacturing capacity on sub-contracts. Tell the Purchasing Agent what you have in the way of equipment, space, and skilled operators, what types of work you can do.

Select the size advertisement suitable to tell your complete story and send in your order and copy now. Advertising forms close March 16 for the April issue.

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# PURCHASING

205 East 42nd Street

New York, New York

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## ARBITRATION WORKS

(Continued from page 66)

separately and be signed separately, even when it is made at the time the principal contract to which it relates is executed.

Not all principal contracts, however, are written and signed by the parties. Then the question of what constitutes an arbitration agreement and how it shall be entered into arises. These questions occur chiefly under sales contracts and purchase orders. Various experiments have been tried and upheld by the courts. For example, the courts have held:

(1) Where a clause is printed on the back of an order that is accepted by a party, it established *prima-facie* evidence of the acceptance of the obligation to arbitrate.

(2) Where the receipt of a written order, signed by the other party, contains an arbitration clause and is not repudiated, the receipt is sufficient.

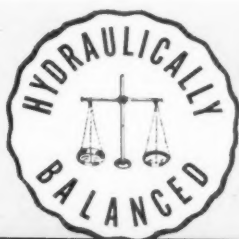
(3) When a clause is used in an order form, signed by one party only, and the other party has accepted delivery under the order, the clause is enforceable, but the question of acceptance is in each case one for the judge or jury to decide.

(4) When the written order of the buyer contained no arbitration clause, but the written confirmation of the seller did, and the buyer retained the seller's confirmation without objection, and subsequently the goods are delivered, an arbitration agreement exists.

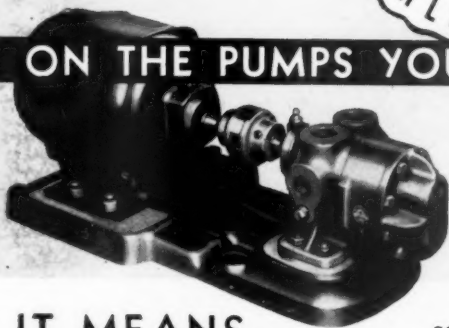
(5) When the text of an arbitration provision was rubber-stamped upon each copy of the order, it has been held sufficient to bind the parties.

(6) When a sales slip contained an arbitration pro-

# Get this SEAL



## ON THE PUMPS YOU BUY



### IT MEANS...

**LONGER LIFE** because Roper flanged bronze bearings act as wear-plates and absorb all wear ordinarily placed on face and backplate.

**QUIETER OPERATION** because the pumping gears actually "float", equalizing internal pressure at all points.

**HIGHER EFFICIENCY** because tests prove that Roper "hydraulically balanced" Pumps top competition in mechanical and volumetric efficiency.

**MORE DEPENDABLE PERFORMANCE** because only quality materials and workmanship go into Roper Pumps... Dependable since 1857.

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Complete information  
on 16 different sizes  
of Roper Pumps and  
valuable pumping  
data.



GEO. D. ROPER CORP., ROCKFORD, ILL.

## ROPER Rotary pumps



**New  
Stanley  
Grinders**  
*packed  
with  
power*  
**For Grinding  
Heavy Welds**  
**— In Iron, Steel,  
Stainless Steel**

Even a tough weld in stainless steel is snagged off easily with these new, heavy duty STANLEY GRINDERS. Packed with power for fast, efficient work! Rugged and tough enough for the heaviest kind of production and repair grinding. Easy to handle and control — the design is balanced and compact. Seal type ball bearing spindle keeps precision gears in perfect alignment. Here's a grinder that will give you long, trouble-free service.

Ask your Stanley Distributor to give you a shop demonstration of the type of work this grinder does on heavy welds of cast iron, cast carbon steel, or stainless steels — or, write to us for complete descriptive literature. Stanley Electric Tool Division, The Stanley Works, 168 Elm Street, New Britain, Connecticut.



No. 72 — 7" Disc  
No. 92 — 9" Disc

## STANLEY ELECTRIC TOOLS

A Complete Line for Industry



## What's More Important to Buy for Your Plant than *Accurate Control-by-Count?*

If you could gear your production-control to up-to-the-minute "news bulletins" delivered in black and white by each production machine and process . . . *you'd have something there.* And scores of plants have obtained this time-saving, output-boosting control by the simple expedient of installing Veeder-Root Counting Devices on all production machines and processes. Then management's reflexes become quicker . . . for it is possible to make the slightest adjustment as soon as it's shown to be necessary by the accurate facts-in-figures that are continuously supplied. If your production counts directly toward Victory, you can count on Veeder-Root, now, Veeder-Root Inc., Hartford, Conn.

### VEEDER-ROOT

INCORPORATED  
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OFFICES IN Boston, Chicago, Cincinnati, Cleveland, Detroit, Greenville, S. C., Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, Montreal, Buenos Aires, Mexico City, London, Melbourne.  
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vision, even in small print, there was a binding agreement.

From these foregoing illustrations, it appears that the courts will construe liberally arbitration provisions in purchase and sales contracts and will not inquire too particularly into what constitutes an arbitration agreement.

If arbitration, through the use of arbitration clauses in contracts, modern arbitration laws and a national system of arbitration tribunals can meet the hazards of wartime, it can also meet the uncertainties of peacetime and help to ease the problems of post-war economic reconstruction which are certain to come.

Following the last war there ensued a crop of litigation, some of which, as stated above, remains unsettled to this day; and there was an intricate tangle of commercial affairs and relations that only the slow processes of the courts could untangle. The depreciated assets and losses entailed by such delays are incalculable.

This need not happen during nor following World War II, either between our allies and ourselves or among ourselves. It need not happen because between 1914 and 1941 Congress enacted a Federal Arbitration Law and many state legislatures passed state arbitration laws making a provision in a contract to arbitrate a future dispute legally valid, enforceable and irrevocable, save as any contract is revocable, and giving a decision made under these clauses the effect of a judgment of the court.

To the business man facing uncertainties in his undertakings, to the Purchasing Agent entering a doubtful or curtailed market, to the lawyer trying to foresee

## The Service "DEFENDER" BELT SET

for  
Defense Plant  
GUARDS



The Service "DEFENDER" Belt Set has been specially designed to fit the rigid requirements of guards engaged in protecting defense plants, waterworks, highways, bridges,

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Now in use at plants of nationally known steel companies, shipbuilders and manufacturers of war material, aircraft, etc.

Write for descriptive folder and name of distributor nearest your plant.



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## Air Raid Wardens—Plant Fire Departments—Civilian Defense Workers



### need this PULMOSAN ASBESTOS HOOD No. A-33

Made of strong asbestos and equipped with an inner skull-guard of specially processed material, this Pulmosan Asbestos Hood protects head, face, eyes, neck and shoulders against hazards of intense heat, glare, flying debris and

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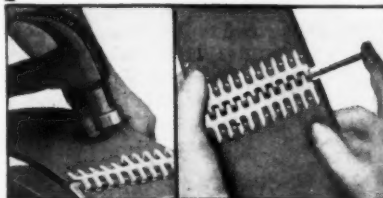
**PULMOSAN SAFETY EQUIP. CORPORATION**

Dept. P, 176 Johnson St., Brooklyn, N. Y.

## KEEP YOUR BELTS RUNNING

1. Inspect your belts and fastenings frequently.
2. If you find that the lacing is badly worn and the belt joint is badly frayed or worn relace the belt with Alligator Steel Belt Lacing.
3. Don't throw worn belting away. Worn belting can be reconditioned or you can easily make up a serviceable belt by cutting out the best sections of old belts and then splicing them together with Alligator Steel Belt Lacing.
4. Be sure and use the size of Alligator Steel Belt Lacing recommended for the thickness of belt to be spliced.
5. Where belts are to be laced that are wider than the standard lengths of 6, 8 or 12 inches, Alligator Belt Lacing is available in continuous lengths for any width of belt. The continuous length is easier to apply and makes a more uniform and longer lasting joint.
6. Write for our Bulletin A-60 that gives complete details on how to lace flat belts of leather, rubber, balata, canvas, from 1/16" to 5/8" thick and as wide as they come.

### JUST A HAMMER TO APPLY IT



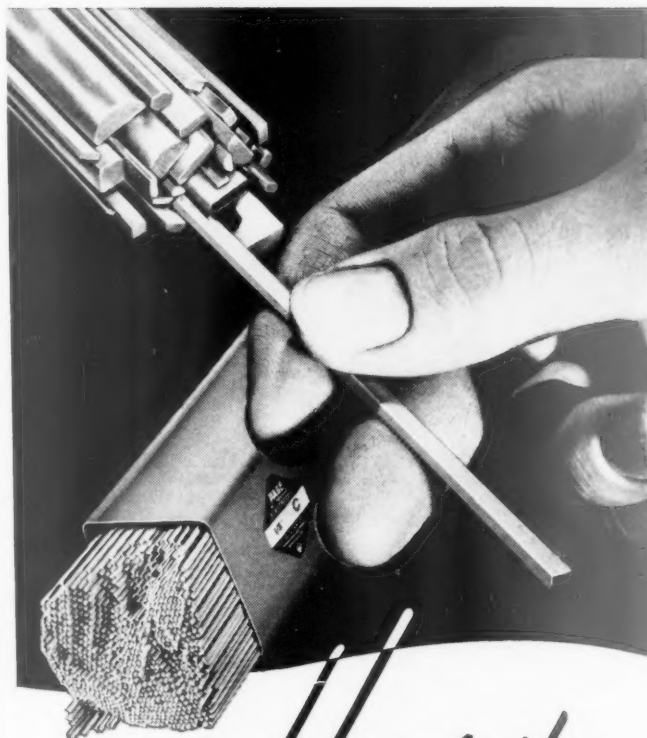
• Lacing can be applied right at the location of the belt without even taking the belt off the line shaft. Alligator has strength with long life, compression grip, is smooth on both faces and the joint is easy to take apart at any time regardless of the amount of wear.

FLEXIBLE STEEL LACING CO., 4697 Lexington St., Chicago

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## STEEL BELT LACING

For more than 30 years the most universally used steel belt lacing in the world.



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★ Deliveries are controlled by governmental regulation . . . PAGE mills are at capacity . . . This PAGE war-time production is maintained at the highest standard. As a user of wire, there are things you might do.

**SHAPED WIRE.** Use a standard shape. Avoid special runs and maintenance of special dies. We will gladly help you work out details of any change. A wide variety of shapes is available—such as oval, half-round, hex, octagonal, square, channel, keystone, etc. in diameters up to 3/4" and in end section areas to .250 sq. inches.

**WELDING ELECTRODES.** Conserve them. Check with your local PAGE Distributor to be sure your rods are correct in analysis and diameter. Insist that your men do not bend electrodes. See that each one is used right down to the holder.

**GENERAL WIRE.** Change in analysis, shape or diameter might improve your position. Check percentage of waste. Indications are that the present situation in such products as Spring Wire, Bond Wire, Telephone Wire, etc. is not subject to early improvement.

If PAGE wire experience can help you work out changes that might improve your position, our cooperation is yours for the asking.

### PAGE STEEL AND WIRE DIVISION

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*In Business for Your Safety*



# PAGE for Wire

AMERICAN CHAIN & CABLE COMPANY, Inc.  
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## "TELL 'EM TO SEND IT BY AIR EXPRESS!"



...IT'S FASTEST—AND  
COSTS SO LITTLE, TOO!



When you need to get an order in a RUSH—ask for shipment by AIR EXPRESS. You'll find it pays to use this sky-service—regularly. For, in addition to saving you hours and often days in shipping time—3-mile-a-minute AIR EXPRESS offers remarkably low rates. There is no extra charge for *special* pick-up and *special* delivery within regular Railway Express vehicle limits in all cities and principal towns.

Also International AIR EXPRESS to and from scores of foreign countries. When you want service, just phone Railway Express, AIR EXPRESS DIVISION.

### EXAMPLES OF AIR EXPRESS ECONOMY

(Minimum Charge \$1.00. Rates by Air Miles)

| Air Miles | 1 lb.  | 3 lbs. | 5 lbs. | 10 lbs. | 25 lbs. |
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| 200       | \$1.00 | \$1.04 | \$1.12 | \$1.32  | \$2.00  |
| 500       | 1.00   | 1.28   | 1.60   | 2.40    | 5.00    |
| 1000      | 1.00   | 1.68   | 2.40   | 4.20    | 10.00   |
| 2000      | 1.00   | 2.48   | 4.00   | 8.00    | 20.00   |
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Division of RAILWAY EXPRESS

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all eventualities, these laws make the difference between darkness and daylight. In the dark year of 1914, no one could insure himself, when a contract was made, against future litigation by providing in the contract for the arbitration of disputes which might arise. In 1942, the arbitration clause is a light along the way the contract must follow, safeguarding the present and insuring the future.

1 1 1

### Basing-Point Prices

(Continued from page 76)

to justify the basing-point pricing system in a negative manner by attempting to prove that since competition in an industry is impossible, the basing-point pricing system is justified since it is a form of monopolistic competition, thus begging the question. With respect to the "vested interests" argument, the argument, it is pointed out, is economically unsound since it would permit the continuance of uneconomic conditions in an industry due originally to an unsound pricing policy, at any rate, the argument is only of a secondary, negative and defensive character.

This already-long recitation of the conflicting contentions in the economic justification of the basing-point pricing system can well be extended indefinitely. Enough has already been indicated, however, to demonstrate to even the most casual inquirer that the issue of economic justification is not a simple one, to be settled in an out-of-hand manner by the simple

## Exact Weight Scales

### Five to Eight Bags a Minute...



MODEL  
2225

Defense requirements are demanding more and more materials . . . more and more man power. Labor shortage is already acute in many districts. Meet your sacking problem with better equipment. New EXACT WEIGHT Sacking Scales have dustite bag holders, lockjaw grips, expanders for changing from 100 lb. to 200 lb. bags, main valves for hoppers. Get the details today.

The  
Exact Weight  
Scale Company

211 W. Fifth Ave., Columbus, Ohio



THERE IS NO SUBSTITUTE FOR EXACT WEIGHT  
**INDUSTRIAL  
PRECISION SCALES**



Here we illustrate a representative selection of PROGRESSIVE special fastenings that are ably serving as vital parts of Uncle Sam's fighting equipment. From gun cleaning implements to ship navigation instruments, PROGRESSIVE products are carrying out their assignments *unfailingly*.

In making these special headed and threaded parts, *rapidly and accurately*, PROGRESSIVE finds its 40-year backlog of experience an invaluable asset. When victory is achieved, this same knowledge and skill—enriched by added years of war experience—will be at the disposal of industry for peace-time assignments.

THE PROGRESSIVE MFG. COMPANY  
Torrington, Connecticut

## FITLER ROPE

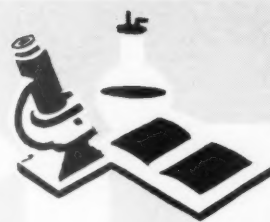
**NEW DEFENSE BRAND OILED SISAL ROPE  
—NO RESTRICTIONS ON ITS SALE**

Are you having trouble obtaining good rope due to priority restrictions? For just such companies Fitler has developed a Defense Brand Oiled Sisal Rope. It is lubricated against internal friction and is specially treated with a water preservative. Under O.P.M. General Preference Order No. M-36 Amendment No. 2 dated Dec. 19, 1941, manila rope was placed on the list of production limitations. To those able to furnish a preference rating of A-1-J or better on a P.D. Certificate form, attached to order, Pure Manila Rope is still obtainable.

**THE EDWIN H. FITLER CO.**

Manufacturers of Quality Rope for Over a Century—Established 1804  
MAIN OFFICE, PHILADELPHIA, PA.

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## SOLVING

*Paper & Cloth  
Coating • Adhesive  
and Laminating  
Problems for*

## DEFENSE



With equipment and personnel used to attacking a wide variety of coating, adhesive and laminating problems, it is our feeling that there may be need by contractors and sub-contractors in Defense work for special and unusual coatings, binders or adhesives on either paper or cloth. It is in these needs that we feel we could be of service.

Our special activities recently have included such diverse developments as adhesives for sticking to metals of various surfaces; lacquers and plastics; lacquer films for a wide variety of uses; lamination and lacquering of aluminum foils; decalcomania paper for revenue stamps. We'd like to work out time—money—or material-saving processes for you. Just tell us your problem—and we'll be on the job!

### McLAURIN-JONES PRODUCTS *include*

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**McLAURIN-JONES COMPANY**

MILLS: BROOKFIELD & WARE, MASS.

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# HALLOWELL

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More than 1300 styles and models to fit every need . . . each one noted for its sturdiness, rigidity, wearing quality and smart appearance.



Pat'd and  
Pat's Pending

"Hallowell" Bench tops are famous for their ability to stand abuse and thrive. The model shown is fitted with a heavy laminated maple wood top. Steel and Masonite tops are also available.

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Exclusive is the wide range of leg sizes "Hallowell" provides for varying requirements. Available in standard and extra heavy construction.

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Dayton Safety Ladders eliminate the expensive delays caused by the hazards of ordinary ladders. Men work faster, with more confidence, on the broad, firm platforms of Dayton's. Ample room for tools and supplies. Rigid steel supports, tested airplane spruce give Dayton Safety Ladders great strength, stability, and extreme lightness of weight. Standard Rubber Safety Shoes at no extra cost.

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INSTALL DAYTON UNIVERSAL SAFETY LADDER SHOES

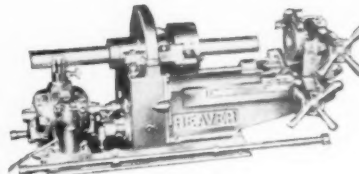


Install these safety shoes on your present straight ladders—guarantee additional safety. This Dayton Universal Safety Shoe prevents slipping. Your choice of renewable treads including Rubber Suction Grip Treads or Suberac Cork Treads. Shoe is instantly converted by a flip of the hand or foot for either inside use of treads or outdoor use of tempered steel spike toe.



As Safe as Standing on the Floor—

## The A-B-C of Pipe and Bolt Machines

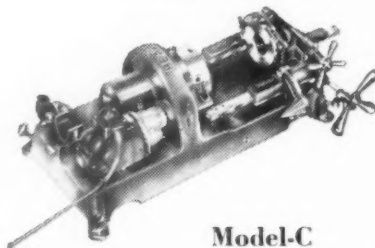


### Model-A

A high-speed heavy-duty deluxe Pipe and Bolt Machine. Range 1/4 to 2-inch—up to 12-inch with geared tools and drive shaft. Bolts, 1/4 to 2-inch. Wt. 415 lbs. Ask for Bulletin-A.

### Model-B

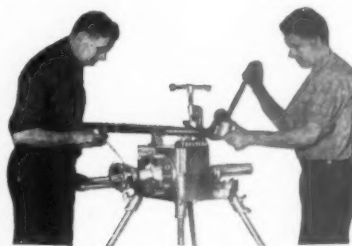
A compact utility Pipe and Bolt Machine combining many features of Model-A with the easy portability of Model-C. Range 1/4 to 2-inch—up to 8-inch with drive shaft and geared tools. Bolts up to 1 1/2-inch. Weight 280 lbs. Ask for Bulletin-B.



### Model-C

A sturdy little Power Unit

Converts Hand Pipe Tools into Power Tools from 1/4 to 8-inches. Threads 8-inch in 6 minutes. Threads bolts up to 1 1/2-inch. Equipped with automatic chuck wrench ejector—a safety feature. Two men can use it at the same time without interference. Easily portable—weighs about 150 lbs. Write for Bulletin-C.



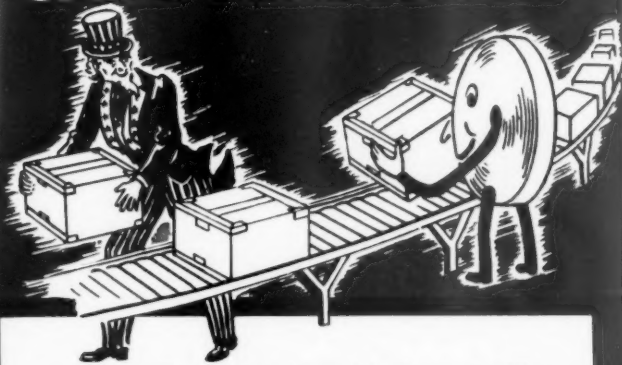
## BEAVER PIPE TOOLS

342 GROW AVE., WARREN, O.

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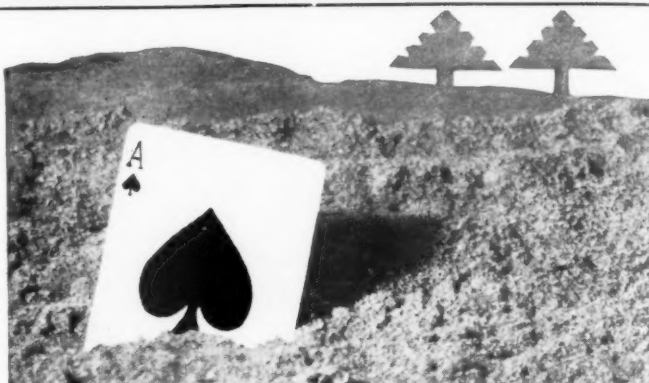
## HELPING UNCLE SAM SPEED PRODUCTION



★ Orange Core's superior moistening and setting speed, its seal-tight stamina in transit is serving industry well today. In factory after factory this ace of sealing tapes is eliminating interruptions and delays, preventing waste and loss. Now, when performance stands out more than ever, Orange Core is proving that superior quality does the job faster and better. We are mighty glad that "America's Best-Selling Brand" is helping Uncle Sam achieve the top-speed production that will bring final victory.

**ORANGE CORE**  
*Sealing Tape*

Moore & Thompson • Div. Hudson Pulp & Paper Corp. • 220 E. 42nd St., N. Y. C.



## FOR EXTRA SPEED IN DEFENSE WORK— Let us be your "Ace in the Hole"

DON'T let armament schedules lag for want of screw machine parts. Send us your specifications for steel and non-ferrous parts up to 1 1/4"—especially for aluminum, with which we have had special experience. Besides making screw machine parts, we assemble wherever required. Over the years, we have made parts for thousands of nationally known items. This experience backs the Newton quality guarantee.

THE NEWTON MFG. CO., 11 Riverside Ave., Plainville, Conn.

**NEWTON**  
**SCREW MACHINE PARTS**  
(SEPARATE OR ASSEMBLED)

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## FORGET ABOUT *Pressure* BUY ON *Endurance!*

This is no time to split hairs when buying fittings. Now is the time to buy high-temperature high-pressure fittings even for moderate service conditions—because they last longer, through future months and years when fittings may be a lot harder to get. Tests prove that, in nearly all cases, the added endurance of higher-rated fittings more than outweighs their additional first cost.

W-S Forged Steel Fittings in both welding and screw end types are available from distributors' stocks in a wide range of sizes and pressure ratings.

Now—if never before and never again—buy W-S High-Pressure High-Temperature Fittings for your uses. All facts are in Bulletin A-3. Get it now. Then consult your Mill Supply Distributor. Look for The Double-Diamond Trademark.

**THE WATSON-STILLMAN CO.**  
ROSELLE, NEW JERSEY

Engineers and Manufacturers of Forged Steel Fittings and Valves,  
Hydraulic Machinery and Equipment—Hydraulic  
Presses, Pumps and Jacks



## YOU CAN'T LOSE THE DIAMONDS OUT OF THIS DRESSER

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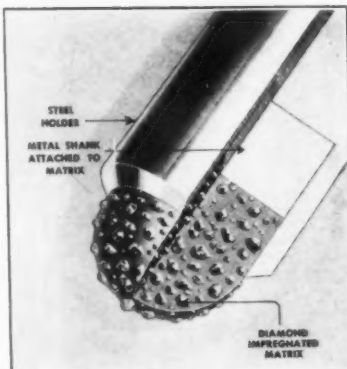
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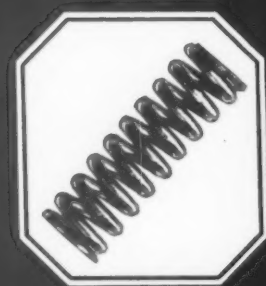
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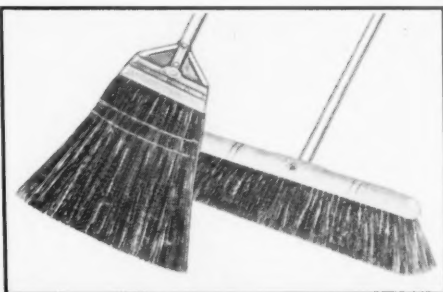
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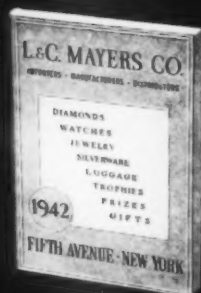
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administrative action of some Governmental agency. The issue still remains to be finally resolved by some authoritative or conclusive determination in favor of one or the other camp of conviction. The lines have been too tightly drawn, the feelings are too tense, and the economic stakes are too great. One can hardly surpass in deep-seated conviction and bitter contention, for example, the following statement of the Federal Trade Commission, having reference to the favorite object of its attacks, the basing-point pricing system in the steel industry:

"The steel industry is a focal center of a monopolistic infection which, if not eradicated, may well cause the death of free capitalistic industry in the United States. This Commission is invested by law with the duty of assisting in the protection of competitive capitalism and in its restoration to health. Whatever such protection may cost, we believe it will be less costly to capitalism and to freedom than any alternative."

In light of this discussion, therefore, it must necessarily be concluded that the action of the OPA in promulgating Price Schedules recognizing the basing-point pricing system in the particular industries is neither a welcome harbinger nor a fatal portent, depending upon the viewpoint, of a probable change in Governmental attitude or policy toward this industrial pricing system. If anything, the OPA action must be recognized for what it apparently truly is, merely a recognition of the necessity of preserving—and literally—the "*status quo ante bellum*" for the duration of the present war emergency.

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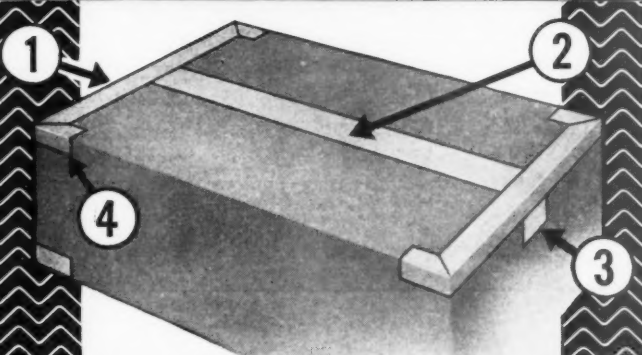
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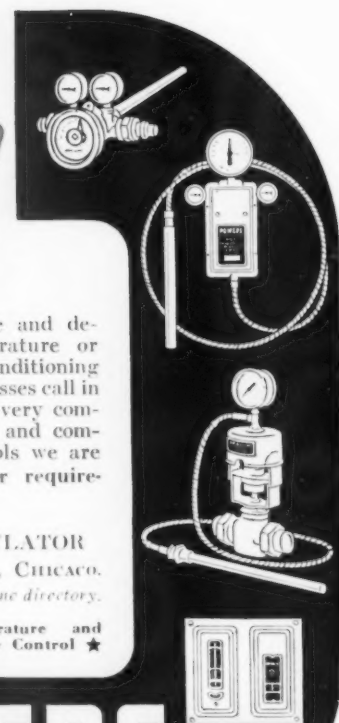
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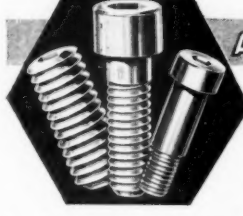
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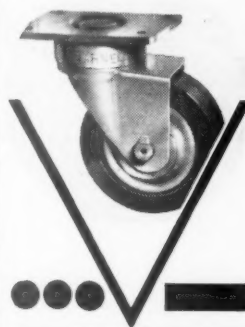
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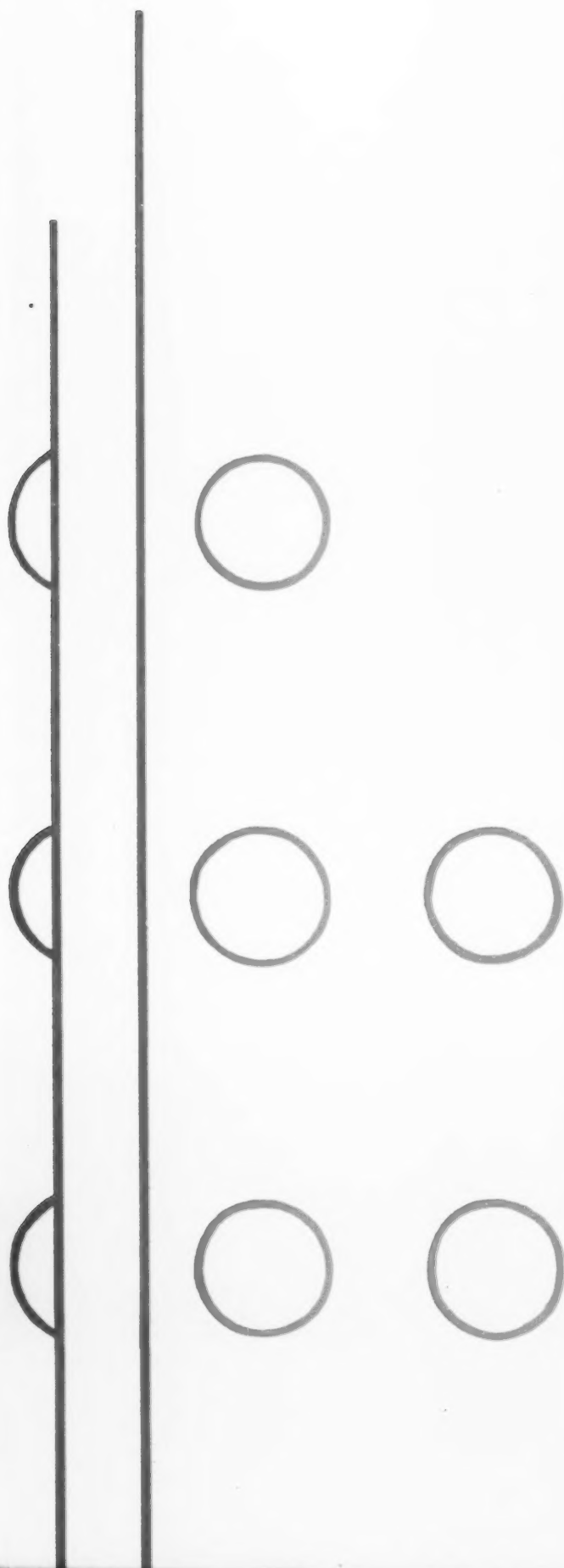
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